DELTA COLLEGE CATALOG

2013-2014









Delta College



Delta College

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Delta College personnel made every reasonable effort to determine that everything stated in this catalog was accurate at the time it was printed. Courses and programs offered, tuition and fees, services, and the academic calendar, together with other matters contained herein, are subject to change without notice by Delta College for reasons related to student enrollment, level of financial support, or for any other reason, at the discretion of the College. Delta College further reserves the right to add, amend, or repeal any of their rules, guidelines, policies and procedures. Although the provisions of this catalog are not to be regarded as a legal contract, students enrolled at Delta College are responsible for all regulations in this catalog as well as additions or changes to regulations as they are posted or printed in other College publications.

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Welcome to Delta College

It was our aim, as we prepared this catalog, to provide you with a tool that will be of help to you throughout the time you spend with us at Delta College pursuing your educational goals. We hope you will find it useful, whether you are a new student, a returning student, or a member of the community involved in our various outreach activities. This Table of Contents tells you what is covered in each section of this catalog. If you are looking for a specific topic, check the Index on page 455, where you should find that topic listed, along with the page on which you will find the information. If you come across a term you don't understand, check page 447 for Definitions of College Terms. If you can't find information important to you or you find something confusing, stop in at the Admissions Office, D101, and talk with the staff, or click *www.delta.edu*. They will be able to clarify for you or direct you to the appropriate staff person for an answer, and they will pass on to us anything you think should be added to or changed in this catalog.

Section I

Welcome

Welcome



Delta College - often referred to as one of America's leading community colleges – promotes academic excellence, and is known for exemplary programs, technological innovation, community leadership and graduates who make a difference.

You will find a personalized learning experience unlike any other. Delta's talented and dedicated faculty and staff will help cultivate your individual talents and potential - all within a state-of-the-art learning environment.

We are proud of the fact that this institution is important to the economic well being of the community. More than 87 percent of Delta graduates stay in Michigan, and more than 63 percent reside in the Great Lakes Bay Region, fueling our economy. Delta graduates are everywhere. Nurses, teachers, doctors, skilled trades people, business leaders -- people just like you -- who came to Delta with a dream to succeed in life.

In addition to our top-quality academic programs, Delta College offers other learning opportunities though Quality Public Broadcasting, the Planetarium, Corporate Services and LifeLong Learning. We invite you to take advantage of all we have to offer.

I trust you will enjoy your Delta experience. And on behalf of our Board of Trustees, faculty, staff and administration, welcome to Delta College.



Dr. Jean Goodnow
President

Accreditation

Delta College is accredited by The Higher Learning Commission A Commission of The North Central Association of Colleges and Schools

30 N. LaSalle Street, Suite 2400
Chicago, Illinois 60602-2504
800-621-7440

On the web: *www.ncahigherlearningcommission.org*
Approved by the Michigan Department of Education

Accrediting/Approving Agencies

Automotive Service Technology: National Automotive Technicians, Education Foundation, 101 Blue Seal Drive, Suite 101, Leesburg, Virginia 20175, 703-669-6650

Child Development: National Association for the Education of Young Children (NAEYC) Early Childhood Associate Degree Accreditation, 1313 L. Street NW, Suite 500, Washington, DC 20005-4100. (202)232-8777or (800) 424-2460.

Criminal Justice: Michigan Commission on Law Enforcement Standards (MCOLES), 106 W. Allegan, Suite 600, PO Box 30633, Lansing, Michigan 48909. (517)322-1417.

Dental Assisting and Dental Hygiene: American Dental Association, Commission on Dental Accreditations, 211 East Chicago Avenue, Chicago, Illinois 60611

Diagnostic Medical Sonography: Commission on Accreditation of Allied Health Education Programs (CAAHEP), 1361 Park St., Clearwater, FL 33756. (727) 210-2350 www.caahep.org

Nursing: ADN: Michigan Board of Nursing, Bureau of Health Service, P.O. Box 30670, Lansing, MI 48909-8170, www.michigan.gov/mdch; Accreditation Commission for Education in Nursing, Inc. (ACEN), 3343 Peach Tree Rd., Suite 850, Atlanta, GA 30326, (404) 975-5000, www.acenursing.org

Nursing LPN: Michigan Board of Nursing, Bureau of Health Services, P.O. Box 30670, Lansing, Michigan 48909-8170, www.michigan.gov/mdch.

Physical Therapy: American Physical Therapy Association, www.capteonline.org, Commission on Accreditation in Physical Therapy Education, 1111 N. Fairfax St., Alexandria, VA 22314 (703) 706-3245

Radiologic Technology: Joint Review Committee on Education in Radiologic Technology, 20 N. Wacker Drive, Suite 2850, Chicago, Illinois 60606-3182, 312-704-5300

Respiratory Care: Commission on Accreditation for Respiratory Care, 1248 Harwood Rd., Bedford, TX 76021-4244

Surgical Technology: Commission on Accreditation of Allied Health Education Programs (CAAHEP), 1361 Park St., Clearwater, FL 33756. (727) 210-2350 www.caahep.org

Water Environmental Technology: Michigan Department of Natural Resources/Operator Training, Mason Building, Seventh Floor, P.O. Box 30711, Lansing, Michigan 48909, 517-373-1214; and Michigan Department of Public Health/Water Division, Sixth Floor, Lewis Cass Building, 320 South Walnut, Lansing, Michigan 48913, 517-373-3500

Students wishing to review documents pertaining to accreditation should contact the Office of the Vice President of Instruction and Learning Services, Office B131, phone: 989-686-9298.

Membership

College Memberships

Advocates for Latino Student Advancement in Michigan Education, (ALSAME)
American Association of Collegiate Registrars and Admissions Officers, (AACRAO)
American Association of Community Colleges, (AACC)
American Association of University Women, (AAUW)
American Collegiate Hockey Association
American Council of International/Intercultural Education (ACIIE)
American Council on Education (ACE)
American Heartland Intercollegiate Bowling Conference, (AHIBC)
American Math Association for Two Year Colleges
American Purchasing Society, (APS)
Association for the Advancement of Sustainability of Higher Education, (AASHE
Association of College and University President's Climate Commitment (ACUPCC)
Association of Community College Trustees, (ACCT)
Association on Higher Education and Disability, (AHEAD)
American Solar Energy Society`
Bay Area Chamber of Commerce
Bay Future, Inc.
Bay Home Builders Association
Break Away Chapter Programs
College and University Professional Association for Human Resources, (CUPA-HR)
Community Colleges for International Development, (CCID)
Continuous Quality Improvement Network, (CQIN)
Council for Advancement and Support of Education, (CASE)
Council for Resource Development
Council of Chambers and Business Organizations, (CCBO)
Disability Network of Mid-Michigan Great Lakes Business Leadership Network
Downtown Saginaw Association
Educational Technology Organization of Michigan (ETOM)
Government Finance Officers Association
Great Lakes Bay Economics Club
Great Lakes Bay Regional Alliance
Great Lakes Safety Training Center
Health Physics Society, (HPS)
Higher Learning Commission Academic Quality Improvement Process (AQIP)
Institute of Continuing Legal Education Partnership, (ICLE)
Institute of International Education, (IIE)
Instructional Technology Council, (ITC)
International Association of General Motors Automotive Service Educational Programs, (IAGMASEP)
International Association of Marketing Students, (DECA)
League for Innovation in the Community College
Michigan Association of Collegiate Registrars and Admissions Officers, (MACRAO)
Michigan Association of Student Financial Services & Administrators, (MASFSA)
Michigan Campus Compact
Michigan College Business Officers Association
Michigan Community College Association, (MCCA)
Michigan Community College Athletic Association, (MCCAA)
Michigan Community College Biologists, (MCCB)
Michigan Community College Human Resource Association, (MCCHRA)
Michigan Community Colleges Chief Academic Officers, (MSSSAO)
Michigan League for Nursing
Michigan League for Nursing
Michigan Liberal Arts Deans, (MLAD)
Michigan Occupational Deans' Administrative Council
Michigan Press Association
Michigan Public Purchasing Officers Association, (MPPOA)
Michigan Regional Skills Alliance (MiRSA)
Midland Chamber of Commerce
Midland Tomorrow
Midwest Association of Student Employment Administrators, (MASEA)
National Association of College and Auxiliary, (NACAS)
National Association of College and University Attorneys
National Association of College and University Business Officers
National Association of College Stores, (NACS)
National Association of Colleges and Employers, (NACE)
National Association of Developmental Education, (NADE)
National Association of Educational Procurement, (NAEP)
National Association of Foreign Student Advisors, (NAFSA)
National Association of Student Financial Aid Administrators, (NASFAA)
National Association of Veteran's Program Administrators (NAVPA)
National College Testing Association, (NCTA)
National Collegiate Honors Council, (NCHC)
National Junior College Athletic Association, (NJCAA)
National League for Nursing Accrediting Commission
Organization for Safety and Asepsis Procedures, (OSAP)
Phi Theta Kappa Honor Society
Saginaw Chamber of Commerce
Saginaw County Business & Education Partnership
Saginaw County Chamber of Commerce
Saginaw Valley Torch Club
Service Members Opportunity Colleges (SOC) Consortium (for Veterans)
Society for Human Resource (SHRM)
Society of College and University Planners
U.S. Green Building Council, (USGBC)
World Future Society

Non-Discrimination Statement

It is the policy of Delta College not to discriminate in employment, education, public accommodation or public service on the basis of religion, race, color, national origin, age, sex, marital status, sexual orientation, gender identity, height, weight, arrest record, veteran status, disability, or other classifications as required by applicable U.S. federal, state or local law. Direct inquiries to the Equity/Compliance Officer, Delta College, Office J101, 1961 Delta Rd., University Center, MI 48710, telephone 989-686-9512, or email: *equityoffice@delta.edu.*

Delta College Overview

During the 1950s, the demand for education beyond high school created tremendous support for a new community college to serve Bay, Midland and Saginaw Counties. In September 1961, Delta College opened its doors to approximately 1,800 students who hoped for a brighter future.

Today, Delta College enrolls nearly 16,500 students annually. These individuals range from high school students taking Delta dual-enrollment classes to older adults returning to college to enhance their skills or for a fresh start.

The main campus has been expanded and renovated (including a $20 million renovation of the Health Professional Building in 2013), and Delta College has three convenient off-campus centers – the Planetarium & Learning Center in Bay City, the Midland Center, and the Ricker Center in Saginaw – to better serve each community.

Points of Distinction

National League for Innovation

Delta College is a charter member of the National League for Innovation in the Community College. The League is comprised of 20 college districts with 58 campuses, enrolling more than 650,000 students. Additionally the League has over 700 colleges who have alliance membership. Delta's membership is significant recognition that it is devoted to the improvement of learning through experimentation and innovation.

The League places a strong emphasis on research, evaluation, and dissemination of information on innovations. In this way, potentially valuable new approaches to instruction are made known and an opportunity is provided to judge their suitability for use at other colleges. Participation in League activities enables Delta to adapt and adopt those innovative practices which have proved effective elsewhere, while sharing the results of its own innovations with colleges in other districts. This means that residents of all ages in the Great Lakes Bay Region have the opportunity to share in the benefits of improved instruction and services provided by the College.

Sustainability

Delta College is committed to reducing and ultimately neutralizing the College's climate-changing emissions. In 2007, President Jean Goodnow signed the American College and University Presidents Climate Commitment (ACUPCC). By doing so, Delta joined hundreds of other institutions across the country in endorsing the goals of the pact.

Delta College is committed to promoting learning, actions, and practices that incorporate social, environmental, and economic sustainability in our communities. With our educational resources and power of influence over future generations, Delta College is an ideal environment from which to live and promote sustainability.

Sustainability is open territory -- there is so much to accomplish and plenty of room for innovation. We invite you to become an active participant. It's the power of a single action that brings about change.

Profile of Our Students

Profile of Student Population

Diversity as a Core Principle

Delta College actively promotes, advocates, respects and values differences. We foster a welcoming environment of openness and appreciation for all. Delta does this by being committed to a sustainable vision that cultivates excellence and innovation, and embraces diversity as a core principle in services and perspectives at every level of course development (programs), engagement (outreach), and human resources (leadership, training and management). This commitment is reflected in our diverse student body.

The diversity of students at Delta College:

Class Designation

Freshmen	65.2%
Sophomores	34.8%

Student Age Distribution

19 years old and under	29.7%
20-24	33.6%
25-29	13.0%
30-44	18.0%
45 and over	5.7%

Gender

Females	54.5%
Males	45.5%

Geographic Residences

Saginaw County	42.4%
Bay County	27.1%
Midland County	14.6%
Other Michigan Counties	15.8%
Out of State	0.1%

Ethnic Backgrounds

Caucasian	79.5%
African-American	10.1%
Hispanic	5.5%
Not designated	1.7%
Multi-racial	0.6%
Asian	1.0%
Native American	0.5%
International	1.1%

Attendance Distribution

Day hours only	26.3%
Evening hours only	6.6%
Weekends only	0.1%
Telecourse/Internet only	5.6%
Combinations of above	61.3%

Student Types

Dual Enrolled	3.0%
First time in any College	18.5%
Guest	1.4%
Returning	53.3%
Transfer-Returning	19.6%
Transfer In-New Delta	4.2%

Figures based on Fall Semester 2012 (pertains only to students enrolled in academic courses).

Mission, Values, Principles, Vision

Mission Statement

Delta College serves our Great Lakes Bay Region by educating, enriching and empowering our diverse community of learners to achieve their personal, professional and academic goals.

The College Mission reflects our Values.

Values Statement

Delta College is a diverse learning-centered community based on integrity and respect. From a foundation of leadership, we use innovation and teamwork to achieve excellence.

Diversity: We actively promote, advocate, respect and value differences. We foster a welcoming environment of openness and appreciation for all.

Integrity: We are committed to honesty, ethical conduct and responsibility.

Respect: We stand for trust, caring, loyalty and academic freedom.

Excellence: We support outstanding achievement in our students, employees and communities. We have a passion for quality and strive for continuous improvement.

Leadership: We create and communicate inspirational visions for results. We are accountable to our communities.

Innovation: We rejoice in creative change. We are flexible, agile and risk-taking.

Teamwork: We foster communication and collaboration across boundaries and support shared governance.

Learning-centered community: We are an engaging, inclusive, diverse learning organization. We focus on academic excellence, civic responsibility and community leadership.

Guiding Principles

The implementation of our College Mission and its underlying Values are supported by certain Guiding Principles.

Based on our Mission and Values Statements, Delta College is committed to:

- providing a range of programs, opportunities, and experiences that enrich the lives of the residents of our community
- continuously improving and regularly measuring the quality of all of our programs and services
- accepting the challenge of our open door policy by providing programs and services appropriate to our students' needs and backgrounds
- providing services to help students overcome obstacles that impede the achievement of their educational goals
- working with K-12 districts, other colleges and universities, and business and industry to share and respond to each others' needs
- creating an environment that fosters appreciation and respect for the uniqueness of each individual
- expanding our students' cultural and global awareness
- the free exchange of all ideas for their own sake as well as for their potentially practical applications
- providing a work environment which supports the professional development of all College employees
- shared governance, understanding that we are all members of the same College community with the privilege of ownership and the obligation of participation
- employee involvement in the community.
- promoting learning, actions and practices that incorporate social, environmental and economic sustainability in our communities.

Our Vision For Delta College

Delta College is our communities' first choice to learn, work, and grow.

Section II

Enrollment

Academic Calendar 2013-2014

Activity/Deadline	Spring - 2013	Fall - 2013	Winter - 2014	Spring - 2014
Applying for Financial Aid	Apply 6 to 8 weeks prior to the term in which you intend to enroll.			
Admission	Continuous			
Residency Status Change (1)	Febuary 5	June 3	October 7	February 4
Academic Classes Available on My Delta	Early January	Early February	Early October	Early January
Priority Registration Begins (2)	March 12	March 26	October 29	March 11
Payment Deadline	April 9	July 30	December 10	April 8
Weekend Classes Begin (3)	May 11	September 7	January 11	May 10
First Day of Semester (3)	May 6	September 4	January 8	May 5
Add Without Instructor Permission (5)	Before Course Begins			
Offset (3)	25th Calendar Day from Start Date of course			
100% Refund (3)	7th Calendar Day from Start Date of course			
50% Refund (3)	8th through 11th Calendar Day from Start Date of course			
Audit (3,4)	Last Day of 50% Refund Period of course			
Drop/No Grade (3,4)	Last Day of 50% Refund Period of course			
Last Day to Apply for Graduation	Three months before your expected graduation date			
Pass/No Credit (3,4)	Through four-fifths (80%) of the course			
Drop/ "W", "WI" (3,4)	Through four-fifths (80%) of the course			
Incomplete Request Deadline (4)	December 1	April 1	December 1	December 1
Validations Applications (2)	During Last Semester Before Validating			
Holidays: No Classes	May 27 July 4-7	November 27-29	March 3-8 April 20	May 26 July 3-6
Last Day of Semester (3)	August 15	December 19	April 29	August 14
Grades Due	August 19	December 22	May 1	August 18

NOTATIONS

(1) Residency petition must be submitted prior to the begining of the semester. Refer to residency policy in this section.

(2) Dates subject to change. Complete registration information, including Special Registration dates for entry into restricted enrollment programs is listed online at www.delta.edu. See Section III, Programs, Validation Procedures.

(3) Some courses begin and end other than these dates; see each semester's courses on MyDelta. Deadline dates apply to regular semester cources. Check with the Registrars Office for deadlines for these courses.

(4) For grading policies, see Section IV, Academic Policies and Information, Grading System.

(5) Exception: Distance Learning Courses require instructor permission after the start date of class; open entry/open exit courses do not require instructor permission after the start date of the course.

LifeLong Learning Classes: Registration dates, times and procedures are different from above; consult the LifeLong Learning Center brochures published each semester.

Admission and Pre-Enrollment

Admission Policy and Procedures

Delta College is open to all individuals included in any one of the categories listed below. Admission to Delta College does not ensure enrollment in all courses or program areas. Many courses have prerequisites; some programs have additional admission requirements. Academic programs of study that require specific prerequisites or eligibility requirements are outlined in Section III, Programs.

Regular Admission

- graduate of an accredited high school
- non high school graduate whose high school class has graduated
- home school graduate at least 17 years old
- person with an official General Education Development (GED) credential (certificate/diploma)
- person from another country entering the U.S. for college educational purposes under an authorized student visa approved by Delta College

Conditional "Special" Admission (must reapply each semester)

- guest student from another college/university
- home school graduate under age 17
- student currently enrolled in secondary level accredited school or home school

A committee consisting of the Dean of Faculty, Dean of Student and Educational Services, and the Director of Admissions may make exceptions to this policy based upon the individual having the ability to benefit from the College's educational programs.

Note: If you do not have a high school diploma or have not successfully completed the GED, you may be restricted from receiving federal financial aid if "ability to benefit" criteria are not met. We encourage you to contact the Admissions Office, Financial Aid Office, or the Assessment/Testing Services Office for detailed information concerning "ability to benefit" criteria.

Admission Dates

Although Admission Applications are accepted and processed continuously, we encourage you to submit your Application preferably 6-8 months, but at least 30 days, prior to your enrollment period. If you plan to request financial aid, it is essential for you to apply for admission and for financial aid 8 to 10 weeks prior to registration.

Our traditional starting dates are:

- Fall Semester (late August/Early September)
- Winter Semester (early January)
- Spring Session (early May)
- Summer Session (early July)

On the Web: *www.delta.edu*

Admission Procedures

Admission fee: Free

You will be admitted at Delta College as:

Regular Admission

1. First Time In College: If you have not previously attended any college or university prior to enrolling at Delta College.
2. Transfer: If you have attended another college or university prior to enrolling at Delta College.
3. Re-Entry/Readmit: If you have not registered for classes at the College for two academic years or more. (No admission fee required if previously admitted after July 1998, or have previous Delta College academic credits).

Conditional Admission (must reapply each semester)

1. Guest: If you are enrolled at another college or university and desire concurrent admission.
2. Dual Enrollment/Fast Track: If you are enrolled in grades 9-12 and approved by your high school counselor and/or principal.
3. Special Enrollment (Home School/Junior High/Other): If you are "academically qualified" this status provides a parallel route for you to enhance your present curriculum, enrich your academic experience, and earn college credit while doing so.

Delta College complies with applicable federal and state laws prohibiting discrimination, including Title IX of the education amendments of 1972, Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act of 1990 and the Michigan Handicapper's Civil Rights Act.

Completed Admission applications, if applicable, must be returned to the Admissions Office. Please review the following admission categories and follow the procedures outlined.

1. **High School Seniors**: If you plan to enroll the summer or fall after your June graduation, you need to complete an Admission's Application and give it to your high school counselor or principal. Ask your high school to send your application, along with your current transcript to the Admissions Office. Be sure to request that a final transcript be sent upon your graduation.
2. **New Students/Adults out of High School/Transfer**: Complete an Admission's Application, and return it to the Admissions Office. You need to request from each previously attended high school, education center, and/or college/university a copy of your *official transcript* be sent directly to the Registrar's Office. Any transcript possessed by the student will be considered non-official.

   A photocopy of **one** of the following **must** be submitted with the application to complete the package for residency verification.

   a. A valid drivers License reflecting the current address of the bearer or Secretary of State Personal Identification Card.

   b. Voter Registration Card reflecting the current address of the holder.

   c. Current property tax receipt for the primary place of residence.

   d. Other legal documents such as court-issued guardianship papers.

   Note: In order to receive financial aid, you must be in a degree or certificate program.

3. **Guest Students:** If you are attending another Michigan college and wish to take Delta courses on a Guest status, you must complete Part

I of the *Michigan Uniform Undergraduate Guest Application* (available at your current institution or from Delta College or online at *www.delta.edu*. Ask the Registrar at your college to complete Part II and to forward it to Delta's Admission's Office. Be sure to check with your current institution to determine if your Delta courses will directly satisfy requirements. Upon the completion of your Delta courses you will need to request an "official" Academic Transcript be sent to your home institution.

4. **Re-Entry/Readmit Students:** If you have not registered for classes at the College for two academic years or more you need to be readmitted. Re-entry may be accomplished by completing an Admissions Application, available from the Admissions Office or on-line at *www.delta.edu*. You are encouraged to see an advisor or counselor prior to registering for classes. Individual assessment also may be recommended.

5. **Dual Enrolled/Fast Track Students:** If you plan to enroll in Delta courses and in high school courses during the same semester, you need to submit a Dual Enrollment Application for each semester in which you intend to enroll. This application, available at your high school, needs to be signed by your parent and high school counselor or principal. Request that your high school send a current copy of your transcript to the Admissions Office.

6. **Special Enrollment Students:** If you are at least 14 years old and attend junior high or high school or are home schooled you may be admitted for one semester at a time under Special Enrollment. This program is provided to supplement your educational plans and to afford educational enrichment in courses and academic areas not available in the student's school or home school setting. You will need to submit a Dual Enrollment Application. The application will need to be signed by your parent and high school counselor or principal (only parent if home schooled). The parent or legal guardian is responsible for all fees, tuition and transportation. You will need to have the ability to read and write at the college level. An assessment exam will be administered to determine your eligibility.

   If you are younger than 14 and can demonstrate the academic and social skills appropriate for college-level coursework you may be admitted for one-semester at a time under Special Enrollment. You will need to submit a completed Dual Enrollment Application at least 30 days prior to the beginning of the anticipated semester of enrollment. A letter of support from the school's counselor or principal or your parent (if you are home schooled) must accompany the application. You will be required to take a college determined assessment exam for proper course placement. A College committee will interview you (accompanied by a parent or guardian) to determine your eligibility for the course and will make a recommendation to the Director of Admissions.

7. **International Students:** If you are not a U.S. citizen or a permanent resident and you are requesting an I-20 form, you need to complete the International Admissions Application.

Transcripts

If you are a new student in any category, or if you are a returning student who has attended another college or university since Delta, you need to request immediately that your official transcript be sent to:

Delta College, Registrar's Office
1961 Delta Road, University Center, MI 48710

Official transcripts include: college, university, GED, and adult education course work.

Acceptance and Evaluation of Transfer Credits From Other Institutions, Training Programs or Examination Programs

1. Only **official transcripts** will be evaluated. Delta College will accept as official transcripts only incoming transcripts that have appropriate signatures and seals and have been sent directly to the College from an issuing institution. Transcripts in the possession of the student or copies of transcripts or grade reports may be used for academic advising or counseling, but no transfer credits will be posted to the Delta College academic transcript from these documents.

2. Official transcripts should be mailed to the Delta College Registrar's Office from the transfer institution. Transcripts received from a Michigan college or university **at least one month** prior to a registration period will generally be evaluated within two weeks of receipt. More time may be necessary to evaluate transcripts from out-of-state institutions.

3. Credits only, not grades, are accepted in transfer. Grades earned at another school in courses accepted by Delta College are not entered on the permanent Delta academic transcript or calculated in the Delta College cumulative grade point average.

4. A maximum of 38 credits acquired through transfer, training or examination programs may be used toward registration priority.

5. The credit value of each course accepted in transfer will be determined by Delta College; the number of credits will never be greater than the Delta College equivalent course, but the number granted may be fewer than the number of credits received at the transfer institution.

6. Transfer credit granted will be shown on the student's permanent academic transcript.

A. Regionally Accredited Institutions

Course work completed at a college or university accredited by one of the eight *Regional Accrediting Associations of Colleges and Schools (See below) will be considered according to the following guidelines:

1. Equivalent Course Work

   Freshman and sophomore level courses are accepted in transfer. Higher level credits are accepted if they correspond to a specific course at Delta College. If Delta College does not have a department or area similar to the courses on the incoming transcripts, no credit will be awarded. Academic credit will not be granted for courses below the 100 level. A minimum of a "C" (2.0) grade on a 4.0 scale is required in each course for transfer.

2. Non-Equivalent Course Work

   "General Elective" credit will be granted for courses completed with a grade of "C" (2.0) or above on a 4.0 scale that are not equivalent to Delta College courses or disciplines. "General Elective" credit applicable to Humanities, Social Science, Science, or Lab Science will be so noted on the student's Delta transcript. (A student must request that a counselor submit the necessary form to receive this credit).

*Regionally Accredited Institutions:

New England Association of Schools and Colleges, Commission on Institutions of High Education (NEASC-CIHE)

New England Association of Schools and Colleges, Commission on Technical and Career Institutions (NEASC-CTCI)

Middle States Association of Colleges and Schools, Commission on Higher Education (MSA/CHE)

North Central Association of Colleges and Schools, The Higher Learning Commission (NCA)

Northwest Association of Schools and Colleges, Commission on Colleges (NASC)

Southern Association of Colleges and Schools, Commission on Colleges (SACS)

Western Association of Schools and Colleges, Accrediting Commission for Senior Colleges and Universities (WASC-Sr)

Western Association of Schools and Colleges, Accrediting Commission for Community and Junior Colleges (WASC-ACCJC)

B. Non-Regionally Accredited Institutions

Courses that apply toward a Delta occupational Certificate/Associate degree program will be considered according to the following if they were completed with a grade of "C" (2.0) or above at institutions recognized and approved by the Council on Higher Education Accreditation (CHEA):

1. Transcripts will be forwarded for evaluation of the occupational courses to the appropriate Division Chair or Discipline Coordinator. The following Options are available to the Division Chairs or discipline Coordinators:
   a. Equivalent Delta College credit may be granted upon review of course outlines, and/or course descriptions, and/or appropriate descriptive materials. It is the responsibility of the student to provide any requested materials to enable proper evaluation.
   b. Equivalent Delta College credit may be granted after successful completion of Delta College courses at the subsequent level.
   c. Equivalent Delta College credit may be granted upon demonstration of proficiency via examination, interview, or other appropriate evaluation means as determined by the appropriate Division Chair or Program Director.
   d. Credit may not be granted.
2. No credit will be granted for General Education courses.

C. Foreign Institutions

Delta College evaluates foreign institution transcripts after they have been submitted to a foreign evaluating service which will then forward the official results of their evaluation to Delta College for credit evaluation. You may choose to have your transcripts evaluated by any evaluating service, (for example):

- World Education Services, Inc. (WES) *www.wes.org*
- Education Credential Evaluators (ECE) *www.ece.org*

D.Non-Traditional Credit

1. Military credit

a. All veterans having a certified DD214 form on file in the Veteran Services Office will be granted credit for LW221 and two lifelong wellness theory (LWT) credits.

b. Veterans who have taken educational programs during military service may, under certain conditions, receive elective credit for that work. The Guide to the Evaluation of Educational Experiences in the Armed Services by the American Council of Education is used to determine these elective credits.

c. Courses completed at accredited military colleges, such as The Community College of the Air Force, may result in the awarding of transfer credit.

2. Certified Training

Academic Credit can be granted for the following types of training programs and exams provided criteria for the award of credit is met.

a. Certified Professional Secretary Exam
b. Child Development Associate credential
c. Current State of Michigan Cosmetology License
d. Current State of Michigan EMT License
e. Michigan Fire Fighters Training Council
f. Current State of Michigan Paramedic License
g. Skilled Trades Journeyman Card
h. First Aid Card

3. Correspondence Courses

Credit granted by correspondence from regionally accredited institutions will transfer to Delta College according to the guidelines for equivalent and non-equivalent credit as outlined.

E. Credit for Prior Learning

You may be granted academic credit for prior learning in many areas of study at Delta College. The Credit For Prior Learning Options are designed for students who have gained, through related work experience and/or training, learning that may be equivalent to the outcomes and objectives taught in actual Delta College courses.

Credit for Prior Learning is assessed by one or more of the following Options:

1. **Credit By Exam (CBE):** comprehensive course challenge examinations that are developed and evaluated by Delta College faculty. If you earn a passing grade on a CBE examination, the course credit(s) will be recorded on your academic transcript. There is a per credit hour attempted fee for all CBE examinations. A CBE may be taken only once per course. Retesting is not allowed. If you are interested in waiver credit, we recommend that you discuss that option with your academic counselor/advisor.
2. **Credit By Portfolio:** an individualized process in which you comprehensively document how your work experience directly relates to the outcomes and objectives of a Delta College academic course. All portfolios are reviewed and evaluated by the faculty member(s) who teach that course. A typical portfolio application includes a current resume, personal manuscript, professional references, and supporting documentation. A non-refundable per credit hour attempted fee must be paid before your portfolio application is submitted to the appropriate Academic Division for consideration. If your portfolio application is approved, the earned course credit(s) will be recorded on your academic transcript.
3. **Credit By Training:** an individualized process in which you earn academic credit for Delta College Training Programs. If you believe that you qualify for this option, contact Assessment/Testing Services.
4. **College Level Examination Program (CLEP) or Defense Activity for Non-Traditional Educational Support (DANTES):** national standardized tests in selected academic areas. Students can earn credit for CLEP and/or DANTES examinations that have been approved by the Academic division(s) as equivalent to specific Delta College courses. The application forms, course equivalents, and minimum passing scores for the examinations accepted by Delta College for academic credit are available from Assessment/Testing Services. There is an examination fee and a non-refundable administration/service fee charged for each examination. You must request that CLEP or DANTES send an official transcript of your examination score(s) to Delta College Admissions Office. Upon receipt of successful examination scores, Delta College Records will record the appropriate credit on your academic transcript.

If you are interested in any of these Credit for Prior Learning Options, please be aware that the following restrictions may apply:

- Credit for Prior Learning is not available in all areas of study.
- Credit for Prior Learning credits may not be transferrable to other institutions.
- Financial Aid cannot be used for Credit for Prior Learning fees.
- You may only apply for credit one time per course.

For additional information, visit (*www.delta.edu*) or call 989-686-9338.

F. Articulation Agreements with High Schools and Career Centers

Articulation is a process which links two educational institutions together to help students make a smooth transition from one level of education to the next without experiencing delay, duplication of courses, and loss of semester credits. Delta College is part of a statewide effort to implement the Competency Based Education Articulation of career education programs.

The secondary articulation agreements allow students to receive college credit for instruction received at the secondary school/center for specific occupational courses. Credits articulated will become part of the total number of credits for program completion solely at Delta College.These agreements are signed contracts between the faculty and administrators of both institutions, and are re-evaluated annually. The instructors at the secondary level initiate the process by completing a student articulation application and submitting it to the Articulation Office at Delta College. To maximize counseling services, once a student has been accepted to Delta as an academic student, and has declared a specific course of study other than dual-enrolled, undecided or general studies, the articulated credit(s) will be posted to the student's transcript. No tuition or fees are charged for articulated credit.

The schools currently involved are:
Alma High School
Bay Arenac ISD Career Center
Bay City Central High School
Bay City Western High School
Bullock Creek High School
Carrollton High School
Chesaning High School
Clare Gladwin RESD
Dow High School
Downriver Career Technical Consortium
Essexville Garber High School
Frankenmuth High School
Freeland High School
Hemlock High School
Heritage High School
Huron Area Technical Center
Iosco Regional Education Service Agency
Lapeer County Educational & Technology Center
Merrill High School
Midland High School
Mt. Pleasant Area Technical Center
Ogemaw Heights High School
Pinconning High School
Saginaw Career Complex
Sanilac Career Center
Shiawassee RESD
St. Charles High School
St. Louis High School
Standish-Sterling High School
Swan Valley High School
Tuscola Technology Center
Whittemore-Prescott High School

For Post-Secondary Articulation information, see Section III, Transfer and Career Education Articulations .
Further information may be obtained from the schools listed above, or from the Delta College Articulation Office, (989) 686-9070, from Midland (989) 495-4000, ext. 9070. More detailed information is published on the Articulation webpages at *www.delta.edu*.

After You Apply

After you apply you will receive a prompt response to your Admission Application. Applications submitted in person will be processed immediately. Upon acceptance, you will be issued a student number, and further information about assessment, orientation, advisement, and/or registration procedures. After being accepted, most new and some returning students are required to participate in pre-enrollment procedures such as assessment, orientation, and advisement.

Getting Started

Step 1: Apply for Admission & Financial Aid

You have completed the first step when you are accepted for admission and apply for financial aid (if applicable). If you intend to apply for Financial Aid, you can complete the free application for Financial Aid (FAFSA). Use our school code (002251) to have your information sent directly to Delta. You should apply as soon as possible.

Step 2: Complete Assessment

COMPASS will assess your current Writing, Reading and Mathematics skills. It is not a test that you pass or fail. Your COMPASS scores will determine your course placement and are prerequisites for many courses. COMPASS is computerized and untimed, but takes approximately two hours to complete. Computer skills are not required to take COMPASS. COMPASS is available on a walk-in basis during regular office hours. For more information about COMPASS visit our web page at *www.delta.edu* or call the Testing Center at 989-686-9182.

Step 3: Participate in Orientation & Advisement

You will be provided information regarding your academic program, eAdvising, registration process, how to check your Delta email, as well as taking a virtual tour of campus. Orientation will provide a simulation on how to search for classes, register for a class, add to a waitlist, manage a waitlist and drop classes. Online orientation can be completed any time. Additionally, the orientation can be completed at your own pace. If you exit orientation you are allowed to return to the last module completed. You will be provided information through your eAdvising account in a few business days.

Exemptions from Assessment and Orientation will be given only for the following reasons:

- You enrolled at Delta College Fall Semester 1986 or earlier and earned one or more academic credits.
- You earned a minimum score of 20 on the English ACT subtest and a minimum of 19 on the Mathematics ACT subtest. A copy of these scores must be given to the Enrollment Services Office. (This exemption is for assessment only.)
- You have earned an Associate degree or higher from a regionally accredited college. An official final transcript or diploma must be sent to the Delta College Registrar's Office.
- You are a transfer student who has successfully completed English composition and math courses equivalent to Delta College courses ENG 111 or OAT 151, and MTH 096 or higher (with a minimum 2.0 GPA). An official copy of your final college transcript must be sent to the Delta College Registrar's Office.
- You are a Guest student from another college. A completed official Guest Application Form is required from your current college or university per semester.

Students who have the necessary documentation for exemption should contact the Delta College Admissions Office to request an exemption and provide the documentation.

Step 4: Register for Classes and Make a Payment

Register for your classes using MyDelta online registration system. Print your registration statement after you register at MyDelta and pay tuition and fees by the payment deadline date. **Financial Aid Applicants Note:** If you have **received your Award Letter** from Delta's Financial Aid Office, you may charge your tuition fee, and books **up to the amount** you were awarded.

Admissions Advising/Campus Tours

We invite you to call with any questions you may have and especially invite you to make an appointment with an Admissions Advisor. We will discuss pre-enrollment procedures, the financial aid process, and general college information. The Admissions Office phone number is: (989) 686-9093; from Midland/Auburn, phone 495-4000, ext. 9093; or from Birch Run/Frankenmuth/Reese/Vassar, phone 758-3400, ext. 9093.

International Student Admissions

Delta College welcomes applications for International Admissions and is authorized under federal law to admit and enroll non-immigrant alien students. In order to obtain a visa for entry into the United States on an F-1 Student visa status, you must present to the U.S. consulate abroad a valid passport, proof of sufficient finances, and a completed I-20 form.

After the college has determined that you have met the following conditions, an I-20 form (Certificate of Eligibility) is issued to admitted Delta students. Upon receipt of your I-20, if you do not currently hold an F-1 Visa, you are required to visit *https://www.fmjfee.com/i901fee* for more information about paying your I-901 fee prior to your consular appointment.

1. **Academic Requirements:** You must be 18 years of age or older and have successfully completed a course of study equivalent to high school level. You are required to submit certified copies (in English) of your high school leaving certificate national and international exams, and transcripts, which reflect courses and marks earned during the last three years of high school.

2. **Language Proficiency:** You must demonstrate you are proficient in English to pursue your studies or you must make arrangements to enroll in an English Language Center prior to acceptance. English proficiency means that you speak, write, and read English fluently. Such fluency is necessary to insure your enrollment, proper placement, and success in achieving your educational goals.

   You must furnish Delta College with proof of having achieved one of the following:

   - A minimum score of 500 on the paper based version of TOEFL (Test of English as a Foreign Language) or 173 on the TOEFL CBT or 61 on the TOEFL IBT
   - At least 5.0 on the IELTS
   - A minimum score of 69 on the MELAB
   - Grade 2A from the STEP-EIKEN program
   - Completion of a recognized English as a Second Language program

   An additional test and interview may be required to establish English proficiency before enrollment.

3. **Financial Verification:** You are required to submit a completed affidavit of support and a current financial statement from a sponsor and his or her bank, which testifies to the sponsor's willingness and ability to support you while you are at Delta. If your government or an organization does not sponsor you, you must submit a current bank statement, which testifies to the existence of enough funds for school and living expenses in your family's account for attendance. All College tuition is due and must be paid in full at the time of registration. **Loans, scholarships, financial aid, and deferred payments are not available to international students.**

4. **Deadlines:** All documents such as applications, recommendations, official transcripts, financial statements of support, Affidavits, Certificates of English Proficiency, and medical reports must be in the Admission's Office at least **four months** preceding the semester you desire to be admitted.

   • **Applying from Home Country**

Semester	Application Deadline	Semester Begins
Fall	May	Last week of August
Winter	September	Second week of January
Spring	January	Second week of May

   • **Transferring from USA/Canada Colleges**

Semester	Application Deadline	Semester Begins
Fall	Mid July	Last week of August
Winter	Early December	Second week of January
Spring	Early April	Second week of May

5. **Medical Insurance:** After arrival and before registering for classes, you must purchase medical insurance with a repatriation clause. Failure to do so or cancellation of the policy will result in you not being able to register for future semesters at Delta and notification will be given to the United States Citizenship and Immigration Services that you are not enrolled.

6. **Verification/Academic Advisor/Orientation/Assessment:** Upon arrival, you must verify visa status, provide a copy of the I-94 card from your passport, and provide a copy of the applicant information from the inside of the passport with the Admission's Office. Orientation and Assessment will be scheduled after arrival and prior to class registration.

For answers to specific questions about enrollment, contact the international student Admissions Advisor by e-mail (admit@delta.edu).

Important notes:

- Applications for admission to Delta College will be mailed upon request. High school records submitted by friends or relatives on your behalf are not accepted. Official records must be mailed directly to Delta College from your secondary school, college, or the Ministry of Education in your country. A $20 admission fee (one time, non-refundable) must accompany the application.
- All documents must be original, certified copies and must be accompanied by an official English translation. The principal or registrar of each school or college attended must sign the transcripts. You must not leave your country, language center or college before you receive official acceptance from Delta College.
- Students on an F-1 visa must enroll full-time (at least 12 credit hours per semester, per academic year) at Delta.
- F-1students must agree to enrollment stipulations as required by federal law. Therefore, F-1 students must indicate their acceptance of these stipulations by signing a contract as part of the admission process, and maintain compliance for each semester of enrollment.

International Students (all visa classifications except F-1 Student Visa): International students range from permanent resident aliens to a visitor on any visa from an A visa to an R visa, including refugees and people with asylum status. Certain restrictions may apply depending on which status you may hold in the United States.

- **If you are a permanent resident alien (green-card holder)** and wish to attend Delta you may register either as a part time or full time student. Admission procedures for a permanent resident alien is as follows:

  Submit a completed application with a copy of your green card (front and back), and also include a copy of your driver's license or State of Michigan identification.

- **If you possess refugee or political asylum status** in the United States and wish to attend Delta you may register either as part time or full time. Admission procedures are as follows:

  Submit a completed application for admission with a copy of your passport (if applicable), appropriate documentation showing your status, and a driver's license or state identification to show where you currently reside.

- **Admission requirements for all other visa holders**:
  Submit a completed application for admission with a copy of your passport, I-94 card, and a copy of the visa that you currently hold.

On the Web: *www.delta.edu*

Costs

Delta offers quality education at the most reasonable cost in the tri-county area.

Costs are thru the 2013-2014 academic year. Use for estimation purposes only.

Tuition:

In-District	$88.50 per credit
Out-District	$142.00 per credit
Out-Of-State/International	$275.00 per credit
Course Fees	Varies - www.delta.edu
Excess Contact Hour Fee	up to $1,250
Technology Fee	$12.00 per credit
Online Internet	$25.00 per credit
Registration Fee	$40 per semester
Admission Fee	$ 0
Orientation Fee	$ 0
Assessment Fee	$ 0
Transcript Fee - Three to Five Days	$ 0
Library Fee	$ 0
Tutoring Fee	$ 0
Parking Fee (except violations)	$ 0
Student Activities Fee	$ 0
Graduation Fee	$ 0
Diploma Fee	$ 0

Michigan Community College Virtual Learning Collaborative (vcampus.mccvlc.org)

MCCVLC Tuition:	
In-District (MCCVLC)	$160 per credit
Out-District (MCCVLC)	$230 per credit
Out-State (MCCVLC)	$300 per credit

Other Costs: In addition to tuition and fees, you must be prepared for the other costs incurred when attending college. These include books, supplies, transportation, room and board, miscellaneous personal expenses, child care, and any costs associated with disabilities.

Residency Policy and Guidelines

Educational costs at Delta College are shared by students, the taxpayers in the Delta College District, and the State of Michigan. Property taxes paid by residents of the Delta College District supplement student tuition and state aid for in-district status students; therefore, the tuition charged legal residents of the Delta College district is the lowest and students who are classified as out-of-state residents are charged the highest tuition. A student's residency classification is established when admitted to Delta College and may only be changed as detailed under No. 4 below.

1. **Residency Classifications:** A person will pay course tuition according to one of the following classifications of legal residence:

a. In-District Status: Legal resident* of Bay, Midland, or Saginaw counties. (This is the Delta College District)
b. Out-of-District Status: Legal resident* of Michigan but not of the above three counties.
c. Out-of-State Status: International students (including Au Pares) and all others not classified within a or b above.

* A legal resident is one whose permanent, primary residence is where he or she intends to return whenever absent from college. A dormitory or apartment rented only for the period of time during college enrollment is not a permanent primary residence.

2. **In-District Criteria:** For tuition purposes, an in-district student is an American citizen or permanent resident who can provide legal proof of residence within Bay, Midland, or Saginaw counties for at least three consecutive months immediately preceding the first day of the semester in which the person plans to enroll. **There are no exceptions to the American citizenship or permanent immigrant status requirement**. Exceptions to the three consecutive months are:

a. The legal residence of a student under age 18 is that of the parent or legal guardian regardless of where the student may have been living for the previous three months.
b. The student marries an individual who qualifies as an In-District resident of the Delta College District.
c. The person is an employee of a business or industrial firm within the Delta College District, AND the employer, by written agreement, agrees to pay directly to the College all tuition and/or fees of the sponsored student for employer-approved classes. If the employer is not directly paying the College for the student's tuition/fees bill, the student will be assessed the appropriate out-of district or out-of-state tuition rate.
d. Veterans, whose induction address was within the Delta College District, who enroll at Delta within three months of discharge will be considered to have an In-district Status.
e. In-District students whose families/spouses move out of the Delta College District during the time they are enrolled may retain their residency status as long as they are continuously enrolled at Delta College (defined as a minimum of one semester in each academic year).
f. A permanent alien who has filed the Declaration of Intention and has been approved to become a U.S. citizen (green card received), and who can provide proof of Delta College District residency for the previous three consecutive months immediately preceding the first day of the semester in which the individual plans to enroll, may petition for In-District status.

3. **Proof of In-District Residence:** All students are subject to a check of their residency status at admission and registration. Students furnishing false information will be subject to disciplinary action. The following examples are types of documents which are considered in determining proof of in-district legal residency(All documentation must show valid in-district address dated three months prior to the first day of the semester):

a. A current/valid Michigan driver's license, Michigan Secretary of State I.D. card, or valid Michigan motor vehicle registration in the student's name indicating a permanent address within Bay, Midland, or Saginaw counties.
b. A property tax receipt from Bay, Midland, or Saginaw counties.
c. A current voter registration card indicating an in-district address.
d. Other legal documents such as court-issued guardianship papers.
e. Auto, home, or renter insurance statement/policy (dated).
f. Dated correspondence from a government agency.
g. Lease Agreement/Rent Receipt(s) that contain address being leased/rented, dates of payment, and signature/address/phone number of the landlord (with proof of drivers license update).
h. Michigan Tax Return.
i. State issued professional license/credential(including date/address).
j. Proof of purchase of property in the district.
k. Tribal ID card with address.
l. Utility receipts,(only water/sewer/gas/electrical).
m. Verification of Military Service.
n. Military discharge papers showing address to an in-district county.
o. Dated Veterans card with address.

4. **Change of Residency Status:** While attending Delta College, students may petition to change their residency classification. Petition forms are available online or in the Registrar's Office and must be submitted, with proof of in-district residence (see No. 3 above), at least one week prior to the student's registration date. Students must meet the criteria stated in No. 2. Any adjustments made in tuition due to a change in residency status shall not be retroactive nor changed within a semester.

Note: Guest students from other colleges and international students on a visa should not expect to have their residency status changed while attending Delta College, as the definition of legal resident has not been met. If you have questions regarding residency, please contact the Registrar's Office at (989) 686-9305; from Midland/Auburn, 495-4000, ext. 9305.

Financial Aid

The Delta College Financial Aid Office (FAO) administers a comprehensive program of financial assistance to help you with the cost of attending col¬lege. The Federal government, the state, Delta College, and other organizations are sources of assistance, if you demonstrate financial need and/or merit. Follow the Free Application for Federal Student Aid (FAFSA) procedures below for Federal financial aid consideration. The financial aid process can take four to six weeks to complete and some types of financial aid are limited, so it is important to apply early. Once you have applied, remember to frequently check your Delta email account for important information regarding your financial aid eligibility.

FAFSA Procedures

1. You may complete the FAFSA for the upcoming academic year beginning January 1st. Apply online at www.fafsa.gov. Before completing the FAFSA, we recommend that you (and one of your parents if you are a dependent student) apply for a PIN at www.pin.ed.gov. The PIN acts as your electronic signature, allows you to review your processed application data, and make corrections. Accurately answer each question on the FAFSA, indicate Delta's College Code (002251), sign it using your/your parent's PIN(s), and electronically submit your application. This will generate a Student Aid Report (SAR), which will be sent directly to you via e-mail.
2. Once you receive your SAR, look it over carefully to make sure it is correct, as the information on this report will be used to determine your eligibility for financial aid. Corrections can be made online at www.fafsa.gov. If you need assistance with corrections, please contact the Financial Aid Office.

Eligibility for Aid

To be eligible for aid you must be a U.S. citizen or permanent resident of the U.S., must not be in default on any student loan and not owe a repayment on any Federal grant. You must, in most cases, enroll and attend at least half-time, maintain satisfactory academic progress as defined by the Delta College Standards of Academic Progress policy, and be enrolled in a program of study leading to a certificate or degree. You must have a high school diploma or GED in order to be eligible for Federal Financial Aid.

Once you have met the eligibility requirements listed above you will be considered for all aid programs administered by Delta, except student loans and scholarships which require a separate application. The financial assistance offered to you may include any of the programs listed on the chart on the following page. You will be notified via your Delta e-mail account regarding the amounts and types of financial aid available based on full-time attendance. Enrollment at less than 12 credits will reduce your award accordingly.

Direct Loan eligibility is based on your anticipated enrollment status. If your enrollment status changes, your eligibility will be recal¬culated and your loan may be reduced or cancelled. Loan funds are disbursed to Delta College via electronic fund transfer (EFT). The Student Finance Office will mail your loan funds directly to your address on file with the college after any balance owed has been deducted.

Every Direct Loan borrower must complete online Entrance Loan Counseling and a master promissory note (MPN) at www.studentloans.gov prior to completing their first Direct Loan application at Delta College.

Rights of Financial Aid Applicants

1. You have the right to know what financial aid programs are available.
2. You have the right to know the deadlines for submitting applications for each of the financial aid programs available.
3. You have the right to know how financial aid will be distributed, how decisions on that distribution are made, and the basis for these decisions.
4. You have the right to know how your financial need was determined.
5. You have the right to know what resources (such as parental contribution, other financial aid, your assets, etc.) were considered in the calculation of your need.
6. You have the right to know how much of your financial need as determined by the institution has been met.
7. You have the right to request an explanation of the various programs in your student aid package.
8. You have the right to know the Delta College refund policy.
9. You have the right to know what portion of the financial aid you received must be repaid, the payback procedures, the length of time you have to repay, and when repayment is to begin.
10. You have the right to know how Delta College determines whether you are making satisfactory academic progress and what happens if you are not.

For an explanation of any of the above rights, please come in to the Financial Aid Office and see a Financial Aid Advisor.

Responsibilities of Financial Aid Applicants

1. You must complete all application forms accurately and submit them on time to the right place.
2. You must provide correct information. In most instances, misreporting information on financial aid application forms is a violation of law and may be considered a criminal offense which could result in indictment under the U.S. Criminal Code.
3. You must return all additional documentation, verification, corrections, and/or new information requested by either the Financial Aid Office or the agency to which you submitted your application.
4. You are responsible for reading and understanding all forms that you are asked to sign and for keeping copies of them.
5. You must accept responsibility for all agreements that you sign.
6. You must perform the work that is agreed upon in accepting a Work-Study job.

   Financial Aid recipients must meet Standards of Academic Progress to continue to receive aid. See Section IV, Academic Policies, Standards of Academic Progress for Financial Aid Recipients.

On the Web: *www.delta.edu*

Financial Aid Programs

FEDERAL PROGRAMS	A	B	C	D	E	F	WHO IS ELIGIBLE	HOW MUCH?	HOW TO APPLY
Federal Pell Grant	Y	Y	Y		Y	Y	Students with Expected Family Contributions (EFC) between 0 and 5081.	Awards range from $605 - $5,645.	Apply at www.fafsa.gov
Federal Work-Study	Y	Y	Y		Y	Y	Students with remaining need of at least $1500, if funds are available.	Awards range from $750-$2,300 per semester. The student earns these funds through part-time employment and receives a paycheck every two weeks.	Apply at www.fafsa.gov and indicate an interest in work - study.
Federal Supplemental Educational Opportunity Grant	Y	Y	Y		Y	Y	Students with expected family contributions of 0, if funds are available.	$100 per semester.	Apply at www.fafsa.gov
Federal Direct Loan (A) Subsidized (B) Unsubsidized (You Pay Interest While In School)	Y	Y	Y		Y	Y	a) Cost minus family contribution minus other aid = need. b) Cost minus other aid (including subsidized loan) = need.	Dependent student subsidized and unsubsidized loan maximum is $5,500 as Freshman, $6,500 as Sophomore. Independent student may be eligible for additional unsubsidized Stafford loan.	Obtain the Federal Stafford Loan Application through your My Delta account.
Federal Parent Loan (PLUS)	Y	Y	Y		Y	Y	Parents of dependent students.	Cost of attendance minus aid = eligibility.	Apply at www.studentloans.gov
Veterans Benefits	Y				Y		Veterans who are eligible or certain dependents of deceased or disabled veterans.	Varies.	Contact Veterans' Services at Delta College or visit their website at www.delta.edu/veteransservices.aspx
STATE OF MICHIGAN PROGRAMS									
Michigan Competitive Scholarship Program	Y	Y	Y	Y		Y	Students who qualify as semi-finalists on ACT test. Awards made by State of Michigan Department of Education.	Maximum award to be determined by state each academic year.	Take the ACT test in high school. If eligible, list Delta College (002251) FAFSA. Deadline: March 1
Tuition Incentive Program (TIP)	Y	Y		Y			Students under the age of 20 at the time of high school graduation or GED completion and who were Medicaid recipients for at least 2 years of a 3-year time period may be eligible.	Tuition and certain fees	Contact Michigan Student Scholarships and Grants at 1-800-447-2687.
Michigan Indian Tuition Waiver				Y			Must have written certification from tribe of being at least 25% Native American and proof of 1-year Michigan residency.	Tuition-only for any number of credits. Does not pay fees or other charges.	Obtain ITW application at www.michigan.gov/mdcr
DELTA PROGRAMS									
Board of Trustees Scholarship	Y			Y	Y		Bay, Midland and Saginaw county high school graduates nominated by their high school guidance counselors.	Tuition and fees for up to 62 credits.	Contact high school guidance counselor.
Adult Education Scholarship	Y			Y	Y		Bay, Midland and Saginaw county adult education graduates nominated by their high school counselors. Based on academic excellence.	6 credit hours of tuition each semester up to a maximum of 30 total credit hours. Must be used within 4 years of the award.	Contact the director of adult education at your high school.
Foundation Scholarships	Y				Y		Students must meet the selection criteria of the various donors.	Varies	Obtain the online scholarship application and deadline date at www.delta.edu.

A. Must meet standards of academic progress for financial aid recipients.
B. Must not owe a refund or be in default on any Title IV Aid.
C. Must demonstrate financial need as determined by the federal formula.
D. Must be a Michigan resident.
E. Must be enrolled in a Delta College academic degree or certificate program.
F. Complete and submit the free application for Federal Student Aid according to the directions provided. Be sure to list Delta's Title IV Code (002251) on the application.

Registration

Registration at Delta generally takes place three times a year, starting in March/April for the Fall Semester, starting in late October for the Winter Semester, and starting in March for the Spring/Summer Semester.

The Registration Process

Any student - new, returning, readmitted, dual, transfer, and guest - may register online at *www.delta.edu* using MyDelta.

- As a new student, you are eligible to register after you complete orientation.
- As a returning, dual, or transfer student you may be given priority to register according to the number of credits you have completed at Delta (including a maximum of 38 transfer credits).
- If you are designated an official guest student by the Admissions Office, you may register at the time all students can register.

Each semester, registration periods are held for any student who has missed the above registration opportunities.

You are expected to register during the official registration periods. After the course has started, but before the midpoint of the course, you may register with the written permission of the instructor. You may not register past the midpoint for any course. It is College policy that if you have financial obligations to Delta College, you will not be allowed to register until the obligations have been paid or cleared.

For detailed information regarding on-line and in-person registration, you should consult the Course Guide booklet or online at *www.delta.edu* prior to the start of each semester's registration period. The Guide is also available in the Registrar's Office, Counseling, Admissions Office, the Planetarium and Learning Center in Bay City; the Ricker Center in Saginaw; and the Midland Center.

Cancelled Courses: The College reserves the right to cancel any course which does not have a sufficient enrollment of students to warrant its continuation. You should attempt to add another course or apply for a refund at the Registrar's Office. You may also request a refund by phone, letter to the Registrar's Office or email regis@delta.edu.

Course Schedule Changes: You are expected to complete the courses in which you are registered. If a change is necessary, you may drop online via MyDelta, file a drop form at the Registrar's Office, send a letter, e-mail, or fax to the Registrar's Office requesting the drop or withdrawal. The date this form is received or the postmark on the envelope is the official drop date for the course.

Added Courses: You may add courses until the first session begins online via MyDelta or at the Registrar's Office. Courses added after this require written permission of the instructor or division chair with these exceptions:

- eLearning courses require permission after the start date of the course.
- Open entry/open exit courses do not require instructor permission after the start date of the course.

Student-Initiated Drops: For courses officially dropped within the refund period of the course, no grade will be reported or recorded on the official College transcript. If the course is officially dropped after the refund period and through four-fifths of the course (the 12th week of a 15-week semester course)you will receive a grade of "W".

If you do not officially withdraw/drop, the instructor will assign an appropriate final letter grade ("A" through "F") in relation to total course requirements achieved.

Instructor-Initiated Drops: An instructor has the option of authorizing a grade of "WI" (withdrawal by instructor) for you if you have missed an excessive number of course hours of instruction or you lack the course prerequisites. This authorization may be initiated through four-fifths of the course and reported to the Registrar's Office.

Upon receipt of an authorization, the Registrar's Office will notify you of the reason for the drop.

If you wish to appeal an instructor-initiated drop, the contact must be with the course instructor. If necessary, mediation may be requested of the appropriate Division Chair. All appeals must be in writing, signed by you as the person requesting the appeal, and received within one week following notification of the drop.

Withdrawal from College: To completely and officially withdraw (drop all courses), you may complete a drop form at the Registrar's Office. Withdrawal may also be processed online via MyDelta or requested by letter, fax, or e-mail. The date this form is received or the postmark on the envelope is the official withdrawal date.

Course/Credit Load

If you are a full-time student, course load is 12-18 credits in a semester. To register for a course load in excess of these limits, you must obtain special permission from a counselor before registration. Approval of an excess course load depends upon your previous academic record.

On the Web: *www.delta.edu*

Tuition and Fees

Full payment of tuition and fees by the payment deadline is required to complete registration. Payment may be made by check, cash, MasterCard, VISA, or Discover, with a tuition payment plan, or with approved financial aid or sponsor authorization. When you register for a class, a seat is reserved for you. This obligates you to pay tuition and fees for that seat. If your payment is not sufficient or subsequently adjusted for changes in financial aid or sponsor authorization, Delta College reserves the right to drop you for non-payment or submit your unpaid student account balance to legal collection process. You will be responsible to pay any collection and attorney fees resulting from legal collection process.

Tuition is assessed by credit based on your residency status. The per-credit tuition rate for each semester is published in the Course Guide booklet and is subject to change without prior notice by action of the Board of Trustees.

Fees are charged for specific courses, and are subject to change without prior notice.

If you are a resident of the Delta College district, 60 years of age or older, you may register for courses offered by the College and receive a grant reducing the amount of tuition due by 50%. The grant does not apply to fees (registration, technology, contact hour, course, etc.), books, supplies, trip costs, or other special fees. The College reserves the right to exempt certain courses or programs from grant eligibility. To be eligible for the Senior Citizen Grant Program, you must have a Delta College identification number. The identification number is issued by the Enrollment Services Office after completing a brief application form, which requires proof of age

Registration Fee of $40 is charged to academic students once each semester. A registration fee is not charged to non-credit students.

Payment Deadlines: Refer to schedule online at www.delta.edu for payment deadlines each semester.

Textbooks and Equipment: You are required to purchase your own textbooks, supplies, personal attire (i.e., lab coats, clinic shoes, etc. as required by courses), special equipment and tools, and attire and equip¬ment for lifelong wellness courses. Most of these items may be purchased at the College Bookstore, which is located in the Commons/ Food Court area and open during all College registration hours, or online.

On the Web: *www.delta.edu/bookstore*

Refund Policy

You may drop courses at the Registrar's Office in person. You may also drop by mail, fax, e-mail, or on-line via MyDelta.edu as deadlines may fall on Saturday or Sunday, when offices are closed. Payments for tuition and fee refunds are processed after the Add/Drop period has ended.

Tuition and Special Course Fee:
100% refund: from the official start date and through the 7th calendar day* (including the first day of class, Saturday, Sunday and holidays).
50% refund: from the 8th through the 11th calendar day* (including the first day of class, Saturday, Sunday and holidays) of the official start date of the course.
No refund: after the 11th calendar day (including the first day of class, Saturday, Sunday and holidays) of the official start date of the course.

For courses less than four weeks but more than 2 days:
100% refund: through the first quarter of the total days** of the course
50% refund: through the second quarter of the total days** of the course.
No refund: after the second quarter of the course.

For one or two day courses:
100% refund: before the start date of the course.
No refund: after course begins.

Courses which have nonrefundable tuition or course fees are noted on my Delta "Search for Classes."

Registration Fee
No refund, unless all courses are cancelled by the College.

Offset
During the 12th through the 25th day from the official start date listed in the schedule, students are permitted to offset equal credits and course fees within the same academic discipline (for example, switching from one ENG course to another ENG course, but not from an ENG course to a MTH course) with the written recommendation of their instructors through the add/drop procedure. For credits or fees added in excess of credits dropped, additional tuition and fees must be paid. During this period, grades of "W" will not be assigned to courses dropped through the offset process. Offset cannot be done between sessions (for example, dropping an ENG course during the first 7 1/2 week session and adding an ENG course during the second 7 1/2 week session or dropping a MTH course during the Spring 7 week session and adding a MTH course during the Summer 7 week session).

Financial Aid Recipients
A student receiving Federal aid who ceases attendance prior to the end date of the semester will be subject to a Title IV Return of Funds recalculation. Depending on your last date of attendance, your financial aid for the semester in question may be adjusted.
Unearned financial aid is returned to programs according to Federal guidelines. Funds are returned in the following order: Federal Loan Programs, Federal Pell Grant, Federal SEOG, and to other Title IV aid programs.
On the Web: http://www.delta.edu/financial-aid-office/attendancepolicy.aspx

Tuition Refund Appeal
The college realizes that on occasion students may need to request an exception to the withdrawal/refund deadline as published due to **extenuating** circumstances. Examples of such circumstances may be obtained on the web at www.delta.edu (search Refunds) or in the Registrar's Office-B100.

*Calendar day is defined as all the days of the week including Saturday and Sunday.

**Total days is defined as all the days of the course including the start date to the end date listed in the schedule booklet including Saturdays and Sundays.

On the Web: *www.delta.edu/*

Section III

Programs

Transfer Programs and Procedures

Delta College offers three Associates degrees which provide you with the foundation to transfer to a Baccalaureate granting college or university:

- Associate of Arts (AA 40000)
- Associate of Science (AS 40000)
- Associate of Fine Arts (AFA 40382)

The requirement for the Associate of Art and the Associate of Science are listed in Section IV Graduation Requirements, while the requirements for the Associates of Fine Arts degree can be found in Section III programs.

Transfer programs can be individually developed with a Delta Counselor/Advisor . Also, with the addition of some courses, almost any Delta College Career Education Associate in Business Studies Degree, Associate in Applied Science Degree, or Associate in Applied Arts Degree may be utilized in part toward fulfilling a portion of a Baccalaureate degree. Transferability of these career education programs and courses depends primarily upon the major area of study in the Baccalaureate degree and the senior school of choice.

Transfer Mission Statement

To facilitate a seamless transition of students and course credits toward degree completion, Delta College is committed to providing academic programs, support services and formal articulation processes for students transferring to or from other accredited institutions.

Delta College is an excellent choice for students planning to earn an Associate degree. While enrolled at Delta in a transfer degree program, you will enjoy these benefits:

- A campus that is convenient to your home and job.
- Costs that are well below four-year colleges and universities.
- Classes that are small and interactive.
- Faculty who are sincerely concerned about your success and available to provide individual assistance.
- Personal student services and academic advising that will support your career decision-making and educational needs.
- Transfer courses that are recognized by respected colleges and universities throughout the United States.
- Time to establish firm career goals and adjust to college-level studies.
- Opportunity to refine your academic abilities and improve reading, composition, mathematics and study skills if needed.

Delta's Associate in Arts, Associate in Science and Associate in Fine Arts Degree Programs provide you with a solid academic foundation required for success at your chosen four-year college or university.

Basically, Delta College provides the first half (freshman and sophomore years) of most Baccalaureate degree programs. After completing your Associate in Arts, Associate in Science, or Associate in Fine Arts Degree at Delta College, you will, in most cases, be qualified to transfer to complete the second half (junior and senior years) of the Baccalaureate degree if you have planned carefully, followed the academic advising provided by Delta Counselors/Advisors, and successfully completed the required courses at the minimum grade level stated by the four-year college or university. It is particularly important for you, as a transfer student, to choose your four-year school in your freshman year because the preparation needed at Delta College to enter one transfer school may be different from the preparation and admission requirements at another school. Professional counselors are available at Delta College to assist you in choosing your college or university and helping plan your transfer program to fit that school.

Transfer Wizard

Transfer Wizard is a feature on the Delta College website that allows you to see how courses from several Michigan colleges and universities transfer in to Delta. This does not replace the requirement that all students must send an official transcript to Delta College, but rather is intended to help students guide themselves in selecting courses at Delta College.

On the Web: *app.delta.edu/transferwizard/SchoolList.aspx*

Michigan Transfer Network

The Michigan Transfer Network (MTN) is a centralized web-based system that allows any student who has completed a course at any Michigan college or university to find the equivalency for that course at any other Michigan college or university. New equivalencies are loaded to the MTN regularly. If you don't see the course you are looking for it does not mean you will not receive credit. For transfering to Delta, all students must send an official transcript to Delta College for a course evaluation.

On the Web: *www.michigantransfernetwork.org.*

MACRAO Articulation Agreement with Senior Colleges

The Michigan Association of Collegiate Registrars and Admissions Officers (MACRAO) Articulation Agreement was established to improve transfer student articulation between two-year and four-year colleges and universities in Michigan. Delta College is a participant in this MACRAO Agreement with the following four-year institutions:

* Adrian College
Albion College
Baker College
* Calvin College
Central Michigan University
Cleary University
* Concordia University
Davenport University
* Eastern Michigan University
* Ferris State University
* Finlandia University
* Grand Valley State University
Lake Superior State University
* Lawrence Tech. University
* Madonna University
Marygrove College
* Michigan State University
* Michigan Tech. University
* Northern Michigan University
Northwood University
* Oakland University
Olivet College
Rochester College
* Saginaw Valley State University
Saint Mary's College
* Siena Heights University
Spring Arbor University
Western Michigan University

*Indicates four-year colleges and universities which have attached provisions to their Agreements. Usually these can be satisfied after transferring. These provisions can be obtained from the four-year institution.

This Agreement provides that if you complete either the Associate in Arts Degree or the Associate in Science Degree **with a minimum grade of "C" in the MACRAO courses**, or all of the following requirements at Delta College, and are accepted as a transfer student by one of the above schools, you will have satisfied the basic general education requirements of that school. The MACRAO Articulation Agreement does not guarantee admission into a particular college or into any particular program at that college. This Agreement applies to basic studies/general education and does not exempt the transferring student from meeting specific requirements for a particular program or program of study; i.e., education, engineering, business, social work. **Acceptable courses are specified under the Associate in Arts and Associate in Science Degree Requirements in Section IV, Academic Policies, Graduation Requirements.** The specific requirements of the MACRAO Agreement are:

1. English Composition 6 Semester Credits
2. Humanities 8 Semester Credits
   (in at least two subject areas)
3. Social Sciences 8 Semester Credits
   (in at least two subject areas)
4. Natural Sciences 8 Semester Credits
   (in at least two subject areas; must include at least one lab course)
5. A minimum of 12 credits must be taken at Delta.
6. Achieve a minimum grade of "C" in each of the above courses.

A certificate option for MACRAO is available, see "Liberal Arts" program. You can make a request that the MACRAO Agreement be put on your official transcript at the Registrar's Office or online at *www.delta.edu.*

 **On the Web:** *www.macrao.org*

Transferability of Delta Courses

Based upon information provided to Delta College from the major Michigan public and private four-year universities, the transferability of courses between colleges/universities depends on:

1. The college/university into which you transfer.
2. Your program of study (program, or more specifically, the major and/or major and minors you are seeking).
3. The grade you receive in the course. In general, a C or better is necessary; a B in "major" courses.
4. Whether or not the transfer college/university has an equivalent (same) course and if so, the number of credits acceptable for their course.
5. The level of the course. For example, an intermediate algebra course may be acceptable for one program, but not for others that require higher levels of mathematics.

Delta College has liaison relationships with many colleges and universities regarding their transfer requirements and program recommendations; however, if you wish to transfer credits from Delta to another college/university, it is ***your*** responsibility to be aware of that institution's transfer policies and program requirements.

There is a limit to the number of credits you may transfer into a college or university. Generally, this is 62 credits, or half the total number of credits required for the Baccalaureate degree (always check with college/university).

You should maintain close contact with your counselor or advisor for all possible assistance in registering for the proper courses and maintaining the necessary level of academic performance. While Delta College will make every effort to give proper guidance, you are responsible for your own choices and for developing your own educational plan.

Evaluating Colleges

Transferring from one college/university to another is very common, but to make it a positive experience, you are encouraged to investigate colleges and universities and their degree requirements; plan ahead; and work closely with your Delta College counselor/advisor, especially in selecting the correct courses for your transfer program. Listed below are several important things to think about as you start evaluating various colleges and universities. You may investigate colleges in Michigan at *www.macrao.org* **or** *www.michigantransfernetwork.org* on the Internet**.**

The **academic climate** of the institution should definitely be explored. Compare your background and abilities with those of the present students at that particular college or university. The transfer institution's admissions staff and your Delta counselor/advisor can be very helpful in this regard. You should read carefully each institution's statement on admissions requirements to be certain you can meet them.

The **program offerings** of the various institutions need to be considered in your decision-making process. If you are interested in a specific field of study, you should look first at colleges and universities offering recognized and accredited programs in that area. Not all colleges/universities offer the same programs of study.

There are **non-academic factors** to consider also in making your college or university choice. How large is the student body? Is campus housing available? What is the nature of the community in which the school is located and how far is it from home? Does the institution provide the environment and opportunity for the types of extracurricular activities that you enjoy (e.g., sports, arts, student government)? Where and what types of jobs are their graduates getting and what type of placement services do they provide? Be sure to get answers to questions like these through visits to the campus, by looking at the catalog, on the college/university's homepage on the internet, or by talking to current students at the college/university. This information can help you choose an institution that fits your personal interests.

Your investigation should also include a thorough review of the **cost** of the college or university being considered. Usually the basic educational expenses of the institutions for an academic year can be determined from their current catalog. Then, add on amounts for such items as personal expenses and room and board to come to a total that will realistically reflect your overall costs.

Last, but certainly not least, are the respective **application procedures for admission and financial aid**. You must submit all required admissions forms correctly and on time if you expect full consideration. You must also submit all financial aid forms correctly and on time. The schools often make their decisions about admission and financial aid soon after the deadline. They must decide on the basis of the material that they have in hand, so it is to your advantage to be prompt and accurate. Many Michigan institutions charge an admissions application fee and all have specific deadline dates by which your application and other necessary credentials (required test scores, high school and college transcripts) must be received.

Transfer Degree Requirements

Each institution of higher education has its own requirements for admission, majors, general education, and so on. These requirements are stated in the college/university's official catalog, bulletin, or on its website. Usually credits are defined as semester hours but some colleges and universities use the term or quarter hour system. To earn a Bachelor's degree, you will generally be required to fulfill the following:

- **Credit requirements**. Minimum number of credits, typically 120 to 130 semester credits for a Bachelor's degree.
- **General Education requirements**. Minimum number of credits earned in each of certain broad groups of courses, such as the humanities, the social sciences, the physical or natural sciences, and mathematics. Some institutions refer to these as distribution or core requirements.
- **Level requirements.** Minimum number of credits earned in courses on such levels as introductory, intermediate, and advanced, or in specific numbered levels of courses such as 300 and 400, commonly referred to as junior and senior-level courses.
- **Major or concentration requirements.** Minimum number of credits earned in a subject area of specialization (i.e., English, chemistry, business administration) for the degree. About one-fourth of the total number of credits required for a degree must be in the major or field of concentration.
- **Minor requirements.** Minimum number of credits earned in a second subject of concentration/specialization. Generally the number of credits required is about half to two-thirds required for a major. Not all degrees require you to declare a minor.
- **Residence requirements.** Minimum number of credits earned in attendance at the institution which is granting the degree (as opposed

to transfer credits earned at another college/university). This is not to be confused with residency which refers to where one lives.

- **Elective requirements.** Minimum number of credits earned in optional courses that the student chooses.
- **Grade requirements.** Minimum cumulative grade point average GPA of grades earned in all courses taken and often, in all courses taken in the major and/or minor. Some colleges and universities also require a minimum grade in specific courses.
- **Specific subject requirements.** Examples include: freshman-level English composition; mathematics; science; two years of foreign language as demonstrated on a specified examination; and computer literacy.

Transfer and Career Education Articulations

Transfer programs of study are designed for students who have earned at least 62 credits at Delta College and then transfer to a four-year college or university. Articulation guides for the following colleges and universities are available at the Delta College Articulation Office web page below. The universities below have signed an articulation agreement with Delta College to guarantee a smooth transition.

On the Web: *www.delta.edu/artic*

Delta College Program (Code)	University - Program (Degree)
Accounting (ABS.10172)	**Davenport University** - Accounting Information Management (BBA) Professional Accountancy (BBA/MBA) Accounting Fraud Investigation (BBA) Finance (BBA) **Northwood University** - Accounting (BBA) - Administration Finance (BBA) - Administration (BBA) *BU, EMU, FSU, FU, KU, SAU, SHU, SVSU
Alternative Energy-Wind Turbine Technology (AAS.15805)	*BU, DU, EMU, FSU, FU, KU, NU, SAU
Architectural Technology (AAS.15872)	**CMU** - Administration/Building Code (BAA) Administration/Organization Administration (BAA) *BU, DU, EMU, FSU, FU, KU, NU, SAU, SHU, SVSU
Art & Design (AFA.40382)	**Central Michigan University** - Fine Arts (BFA) **College of Creative Studies** (BFA) **SVSU** - Fine Arts (BFA) *BU, FU, FSU, KU, NU, SAU
Automotive Service Education Program (AAS.60842)	*BU, DU, EMU, FSU, FU, NU, KU, SAU, SHU
Automotive Service Technology (AAS.15844)	*BU, DU, EMU, FSU, FU, KU, NU, SAU, SHU
Chemical Processing Technology (AAS.15829)	*BU, DU, EMU, FSU, FU, KU, NU, SAU, SHU, SVSU
Chemical Technology (AAS.15464)	**Central Michigan University** - Chemistry (BS) **Eastern Michigan University** - Polymers & Coatings (BS) *BU, DU, EMU, FSU, FU, KU, NU, SAU, SHU, SVSU
Child Development (AAA.25762)	**Ferris State University** - Early Childhood Education (BS) Business Administration Professional Track (BS) *BU, DU, FSU, FU, KU, NU, SAU, SVSU
Computer Science & Information Technology (Business & Information Technology ABS.10130) (Computer Applications ABS.10131) (Network Technology AAS.17135) (PC Systems Support & Technology AAS.17136) (Programming AAS.17137) (Web Information Technology AAS.17138) (Information Security & Technology AAS 17165)	**Capitol College** - Information Assurance (BS) **Davenport University** - Biometric Security - Computer Gaming and Simulation - Computer Networking (BS) - Digital Forensics (BS) - Network Security (BS) - Information and Computer Security (BS) - Global IT Project Management (BS) - Database Management (BS) - Programming (BS) - Web Design Development (BS) **Eastern Michigan University**-Information Assuramce (BS) **Ferris State University** - Computer Information Systems (BS) Information Security & Intelligence (BS) **Northwood University** - Management Information Systems/Management (BBA) *BU,EMU, FSU, FU, KU, SHU, SAU, SVSU
Construction Management (AAS.15875)	*BU, DU, EMU, FSU, FU, KU, NU, SAU, SHU, SVSU
Criminal Justice (Basic Police Training - AAA.25725) (Corrections - AAA.25726) (Law Enforcement - AAA.25727) (Loss Prevention Specialist - AAA.25723)	**Central Michigan University** - Community Development - Public Administration (BS) **Davenport University** - Public Safety & Security Management (BBA) - Biometric Security (BS) **Ferris State University** - Criminal Justice (Options - Corrections, Law Enforcement, and Law Enforcement with Basic Police Training) **Saginaw Valley State University** - Criminal Justice (BA) University of Phoenix - Criminal Justice Administration (BS) *BU, EMU, FSU, FU, KU, NU, OU, SAU, SHU, SVSU
Dental Assisting (AAS.20510)	*BU,CMU,DU, EMU, FSU, FU, KU, NU, SAU, SHU
Dental Hygiene (AAS.20515)	**Ferris State University** - Dental Hygiene (BAS) **University of Detroit Mercy** - Dental Hygiene (BS) *BU, CMU, DU, EMU, FSU, FU, KU, NU, SAU, SHU

*** See KEY - page 30**

Delta College Program (Code)	University - Program (Degree)
Electronic Media/EMB (AAA.15340)	**Ferris State University -** Television & Digital Media Production (BS) Northern Michigan University - Media Production and New Technology (BS) *BU, EMU, FSU, FU, KU, NU, SAU, SHU, SVSU
Environmental Technology (AAS.15466)	**Central Michigan University -** Environmental Studies (BS) *BU, DU, EMU, FSU, FU, KU, NU, SAU, SHU, SVSU
Fire Science (AAS.25731-25736)	**Central Michigan University** - Community Development - Public Administration (BS) **Davenport University** - Public Safety & Security Management (BBA) *BU, EMU, FSU, FU, KU, NU, SAU, SHU, SVSU
Health Fitness Specialist (AAS.25710)	**Central Michigan University** - Health Fitness (BS) *BU, DU, FSU, FU, KU, NU, SAU, SHU, SVSU
Industrial Technology Education (AAS.15710)	**Saginaw Valley State University** - IT Education (BAS with secondary teaching certificate) *BU, DU, EMU,FSU, FU, KU, NU, SAU, SHU, SVSU
Legal Support Professional (ABS.10282)	**Davenport University** - Paralegal Studies (BS) **Eastern Michigan University** - Paralegal Studies (BS) *BU, EMU, FSU, FU, KU, NU, SAU, SHU, SVSU
Management (ABS.10251 - Cosmetology) (ABS.10254 - General) (ABS.10256 - Marketing) (ABS.10257 - Merchandising) (ABS.10258 - Office Services) (ABS.10260 - Retail) (ABS.10262 - Entrepreneurship/Small Business)	**Central Michigan University** - Business Administration (BS) **Davenport University** - Human Resources Management (BBA) - International Business (BBA) - Sports Management (BBA) - Management (BBA) - Strategic Human Resource Management (BBA) - Marketing (BBA) -Strategic Management (BBA) **Eastern Michigan University** - (Business Administration with approved Business major (BBA) **Kettering University** - Management (BS) **Northwood University** - Management (BBA) - Marketing (BBA) - Fashion Marketing/Management (BBA) - Advertising & Marketing (BBA) - Aftermarket Management (BBA) - Automotive Marketing & Management (BBA) - Entertainment, Sport & Promotion Management (BBA) - Entrepreneurship (BBA) - Hospitality Management (BBA) - International Business (BBA) **Siena Heights University** - Administration (BBA) **Walsh College** - Management (BBA) *BU, EMU, FSU, FU, KU, SAU, SVSU
Manufacturing and Industrial Technology (AAS.15851)	*BU, DU, EMU, FSU, FU, KU, NU, SAU, SHU, SVSU
Mechanical Engineering Technology (AAS.15822)	Michigan Technological University - Mechanical Engineering Technology (BS) *BU, DU,EMU, FSU, FU, KU, NU, SAU, SHU, SVSU
Medical Office Professions/Medical Secretary(ABS.10288)	**Davenport University** - Health Information Administration (BBA) - Medical Case Management (BBA) *BU, EMU, FSU, FU, KU, NU, SAU, SHU, SVSU
Nursing RN (AAS.20564)	**Davenport University** - Nursing (BSN) **Ferris State University** - Nursing (BSN) **Saginaw Valley State University** - Nursing (BSN) **University of Michigan-Flint** - Nursing (BSN) University of Phoenix - Nursing (BSN) *BU, CMU, EMU, FU, KU, NU, SAU, SHU
Office Professions (Administrative Assistant - ABS.10296)	*BU, DU, EMU, FSU, FU, KU, NU, SAU, SHU, SVSU
Physical Therapist Assistant(AAS.20573)	*BU, CMU, EMU, FSU, FU, KU, NU, SAU, SHU, SVSU
Radiography (AAS.20545)	*BU, DU, EMU, FSU, FU, KU, NU, SAU, SHU, SVSU
Refrigeration/Heating, Air Conditioning Service Technology (AAS.1589)	*BU, DU, EMU, FSU, FU, KU, NU, SAU, SHU, SVSU
Residential Construction (AAS.15887)	*BU, CMU, EMU, FSU, FU, KU, NU, SAU, SHU, SVSU
Respiratory Care (AAS.20579)	*BU, CMU, DU, EMU, FSU, FU, KU, NU, SAU, SHU, SVSU
Skilled Trades (AAS.60891)	*BU, DU, EMU, FSU, FU, KU, NU, SAU, SHU

*** See KEY - page 30**

Delta College Program (Code)	University - Program (Degree)
Sonography, Diagnostic Medical (AAS.20547)	*BU, CMU, DU, EMU, FSU, FU, KU, NU, SAU, SHU, SVSU
Surgical Technology (AAS.20549)	*BU, CMU, DU, EMU, FSU, FU, KU, NU, SAU, SHU, SVSU
Water Engineering Technology (AAS.15827)	*BU, EMU, FSU, FU, KU, NU, SAU, SHU, SVSU
Welding Engineering Technology (AAS.60897)	*BU, EMU, FSU, FU, KU, NU, SAU, SHU, SVSU
Associates of Art (AA. 40000)	**Central Michigan University -** BS Business Administration BS Elementary Education BS Integrative Public Relations BS Journalism BS Phychology BBA Integrated Leadership Studies BS Secondary Education **Kettering University -** BS Business Administration **Saginaw Valley State University -** BS Elementary Education BU, FSU, FU, KU, NU, OU **University of Michigan - Flint -** BBA Business Administration
Associates in Science (AS. 40000)	**Central Michigan University -** BS Chemistry BS Dietetics BS Electric Engineering BS Mechanical Engineering BS Geography BS Meteorology with CS & Mathematics Minors BS Elementary Education **Kettering University -** BS Computer Science BS Applied Mathematics BS Physics BS Engineering BS Chemistry & Biotechnology BS Business Administration **Palmer College of Chiropractic** **Saginaw Valley State University -** BSEE Electrical Engineering BSME Mechanical Engineering BS Engineering Technology Management **University of Michigan - Flint -** BS Radiation Therapy BS Health Sciences Pre-Physical Therapy **University of Detroit Mercy-** Engineering BU, FSU, FU, KU, NU

*** See KEY - page 30**

Community College Agreements

As a member of the Michigan Community College Association, Delta College partners with other community colleges to provide effective short-term transfer programs. Discussion continues with many other community colleges. Current partnerships include:

Delta College Program (Code)	University - Program (Degree)
Chemical Process Technology (AAS.15829)	**Alpena Community College -** Chemical Process Technology (AAS) **Bay de Noc College** - Chemical Process Technology (AAS) **Mid Michigan Community College** - Chemical Process Technology (AAS)
Criminal Justice (CSZ. 35725)	**Mid Michigan Community College** - Criminal Justice (AAS) Law Enforcement with Basic Police Training (AAS)
Criminal Justice, Law Enforcement (AAA.25727)	**Alpena Community College** - Law Enforcement with Basic Police Training (AAS)
Dental Hygiene Clinicals (AAS.25015)	**Alpena Community College -** Dental Hygiene Clinicals
Maritime Deck or Maritime Engineering Officer	**Ferris State University** - Business Administration (BS) **Northwestern Michigan College, Great Lakes Maritime Academy**

*** KEY to articulation information with select colleges/universities:**

(BU) Bellevue University - Specific Delta College associate degree, up to 82 credits, will transfer into one of 30 accelerated bachelor's degree completion programs. All BU courses can be taken online.

(CMU) Central Michigan University - Specific programs will transfer to CMU for a Bachelor of Science degree. Many occupational or technical programs will transfer to CMU (off campus programs) for a Bachelor of Applied Arts - Administration.

(DU) Davenport University - Specific associate degree programs from Delta College will transfer and apply to either a 2+2 or 3+1 bachelor degree program.

(EMU) Eastern Michigan University - Approved technical programs at Delta College will transfer to Eastern Michigan University and will apply toward a Bachelor of Science in Technology Management.

(FSU) Ferris State University - Any Delta College associate degree with a GPA of not less than 2.0 on a 4.0 scale may be transferred; qualified students may transfer all credits in the associate degree toward the bachelor degree.

(FU) Franklin University - A Delta College associate degree plus 20-24 credits from a recommended list may be transferred. FU courses may be taken online.

(KU) - Kaplan University - Students having completed an Associates Degree program (AA, AAS, AS, or specialized associate degrees) will be eligible for a block transfer and acceptance into Kaplan's "advanced start" baccalaureate option.

(OU) Oakland University - The 2 + 2 program provides for transfer of up to 62 credits. Students with an associate degree in any area except nursing may qualify for a Bachelor of General Studies Degree at Oakland University.

(NU) Northwood University - This university will accept any associate degree from Delta College and apply the credits to either a 2 + 2 or 3 + 1 program for a Bachelor of Business Administration with a major in management.

(SAU) Spring Arbor University - A maximum of 84 credit hours may be transferred from Delta College and applied toward a Bachelor of Arts in Family Life Education, a Bachelor of Social Work, or a Bachelor of Science in Organizational Management. Classes are offered in the Great Lakes Bay Region.

(SHU) Siena Heights University - Delta AA, ABS and AAS degrees will transfer and apply to a 3+1 Bachelor of Applied Science or Bachelor of Business Administration program.

(SVSU) Saginaw Valley State University - Specific technical associate degree programs at Delta College will transfer and apply to a Bachelor of Applied Studies degree. Additional basics and a minor are required to complete the bachelor degree. (Pertains only to Career Education Articulations.)

(UM-F) University of Michigan - Flint - The AA degree program in Business Administration Delta College will transfer to the University of Michigan - Flint and will apply toward a Bachelor of Business Administration program.

(WC) Walsh College - A maximum of 82 credit hours may be transferred towards a Bachelor of Business Administration degree with majors in Business Information Technology and Management, or a Bachelor of Science in Business Information Technology. Honors Fast Track students may transfer up to 87 credits towards the BBA/MBA program.

Career Education Mission Statement

Delta College's Career Education Programs provide core knowledge, skills and learning experiences that prepare students for successful entry and advancement in careers, baccalaureate institutions, and global opportunities.

Many educational programs offered at Delta College are designed to prepare you for immediate employment in the job market. The career education curricula provides you with the necessary skills and knowledge required for entry-level positions in career fields. In addition, most programs are diversified sufficiently to create some social and economic awareness. Attending full-time, you can complete most Certificate programs in one year and the majority of Associate degree programs in two years.

Most career education programs are not specifically designed for transfer purposes to Baccalaureate degree-granting institutions. Transfer of all credits earned should not be expected.

In some programs, credits earned in career education programs may be transferable into a Baccalaureate degree program at a four-year college or university; however, these programs are not designed specifically to parallel the first two years of university study. You should consult with your Delta counselor and the Admissions Office of the college or university into which you wish to transfer.

Terms Used in this Section

Certificate: A Certificate is awarded for the completion of various career education curricula. Most Certificates prepare you for specific jobs or aspects of a job. Some Certificates are part of an Associate degree program, in which case the credit earned in the Certificate may be used toward the Associate degree.

Certificate of Completion (C) - less than 6 credits
Certificate of Achievement (Z) - 6 to 23 credits
Advanced Certificate (A) - 24 or more credits
Post Associate Certificate (P) - beyond Associate's level with 6 or more credits.

Applied Associate Degree: The degree is broader in scope than the Certificate and includes a varying number of General Education and support courses.

AAS - Associate in Applied Science
AAA - Associate in Applied Arts
ABS - Associate in Business Studies
AFA - Associate in Fine Arts
DE (Dual Degree)-AAS & ABS

Electives: These are courses applicable toward a degree or Certificate which may be chosen to meet your individual interests and needs.

Many courses in these Programs have prerequisites. See Section VI, Course Descriptions for prerequisite information.

Program Title	Associate Degree	Certificate	Page
Academic Career Experience		CBZ.35100 (Z)	**37**
Accounting	ABS.10172	CBA.35172 (A)	39
Alternative Energy - Wind Turbine	AAS.15805		43
Architectural Technology	AAS.15872		45
Art + Design	AFA.40380		47
Automotive Service Educational Program (ASEP)	AAS.60842		49
Automotive Service Technology	AAS.15844	CTA.35845 (A)	51
Chemical Process Technology	AAS.15829	CSA.35835 (A)	55
Chemical Technology	AAS.15464		60
Laboratory Science		CTA.35464 (A)	58
Pre-Medical Laboratory Science		CHA.35464 (A)	59
Child Development	AAA.25762	CSA.35763 (A)	63
Educational Praprofessional		CSZ.35763 (Z)	62
Communication			
Interpersonal		CSZ.35325 (Z)	66
Presentational		CSZ.35326 (Z)	67
Computer Aided Drafting		CTA.35865 (A)	68
Computer Numerical Control		CTA.35864 (A)	69
Computer Science & Information Technology			
Business & Information Technology (BIT)	ABS.10130		71
Computer Applications (CA)	ABS.10131	CBA.35131 (A)	73
Information Security & Technology (IST) / Criminal Technology	AAS.17165	CTP.35165 (P)	76
Information Security & Technology (IST) / Financial Security	AAS.17170	CTP.35170 (P)	79
Information Security & Technology (IST) / Information Assurance	AAS.17172		82
Network Technology (NT)	AAS.17135	CTA.35135 (A)	84
PC Systems Support & Technology (PC)	AAS.17136	CTA.35136 (A)	88
Programming (PROG)	AAS.17137		91
Web Information Technology (WEB)	AAS.17138	CTA.35138 (A)	93
Construction Management	AAS.15875		96
Criminal Justice:			
Corrections	AAA.25726	CSZ.35724 (Z)	98
Corrections with Jail Officers Academy		CSZ.35726 (Z)	99
Law Enforcement	AAA.25727		102

Program Title	Associate Degree	Certificate	Page
Law Enforcement with Basic Police Training	AAA.25725	CSZ.35725 (Z)	104
Security/Loss Prevention Specialist	AAA.25723	CSZ.35723 (Z)	107
Customer Energy Specialist		CTA.35873 (A)	110
Dental Assisting	AAS.20510	CHA 35512(A)	112
Dental Hygiene	AAS.20515		118
Diagnostic Medical Sonography	AAS.20547	CHA.35545 (A)	121
Digital Film Production		CEA 35330 (A)	125
Dual Degrees			
Automotive Service Technology/General Management	DE.30844		128
Dental Assisting/General Management	DE.30518		130
Dental Hygiene/General Management	DE.30519		132
Diagnostic Medical Sonography/General Management	DE.30547		134
Health Fitness Education & Promotion/General Management	DE.30710		136
Nursing/General Management	DE.30569		138
Physical Therapist Assistant/General Management	DE.30575		140
Radiography/General Management	DE.30546		142
Respiratory Care/General Management	DE.30578		144
Surgical Technology/General Management	DE.30550		146
Electrical Utility	AAS.15813		148
Electrical Substation Worker		CTA.35811 (A)	148
Electronic Media/Broadcasting (EMB)	AAA.15340		151
Environmental Technology	AAS.15466	CSA.35467 (A)	154
Fire Science Technology :			
Emergency Medical Services	AAS.25732		159
Fire & Industrial Loss Prevention Officer		CTA.35732	165
Fire Fighter Technician	AAS.25736		162
Fire Investigation/Prevention	AAS.25734		166
Fire Science Technology	AAS.25731		157
Industrial/Commercial Security & Safety	AAS.25733		169
Leadership & Training	AAS.25735		172
Global Peace Studies	AA.40000	CSZ.35400 (Z)	175
Group Fitness Instructor		CSA.35740 (A)	179
Health Fitness Specialist	AAS.25710		181
HVACR			
Air Conditioning		CTA.35891(A)	183
Commercial Refrigeration		CTA.35890(A)	184
Heating		CTA.35892(A)	185
Service Technology	AAS.15890		186
Industrial Technology Education	AAS.15710		187
International Studies			
With Foreign Language Skills		CSA.35493	188
Without Foreign Language Skills		CSA.35493	189
Journalism and Emerging Media	AA.40000	CEA.35324 (A)	193
Lean Resource Management		CTZ.35851 (Z)	195
Legal Support Professional	ABS.10282		200
Law Office Foundation		CBA.35283 (A)	196
Law Office Specialist		CBA.35284 (A)	198
Liberal Arts		CSA.35390 (A)	202
Management			
Cosmetology Management	ABS.10251		203
Entrepreneurship/Small Business Management	ABS.10262	CBA.35263 (A)	205
General Management	ABS.10254		208
Marketing Management	ABS.10256		209
Program Title	**Associate Degree**	**Certificate**	**Page**

Office Services Management	ABS.10258	CBA.35258 (A)	211
Retail Management	ABS.10260	CBA.35260 (A)	214
Management/Subsequent Degrees:			
Business Management	ABS.10255		217
Northwood 3 + 1	ABS.85005		218
Manufacturing & Industrial Technology	AAS.15851		221
Lean Manufacturing		CTZ.35852 (Z)	219
MIT Supervisor		CTZ.35850 (Z)	220
Massage Therapy		CHA.35589 (A), CHP.35588 (P)	223
Mechanical Engineering Technology	AAS.15822		225
Medical Office Professions			
Health Insurance Coding & Claims Specialist		CBA.35286 (A)	227
Medical Secretary	ABS.10288		229
Medical Transcription Specialist		CBA.35285 (A)	228
Nursing (ADN)	AAS.20564		231
Nursing Transition Track:			
Licensed Paramedic to RN	AAS.20569		234
Licensed Practical Nurse to RN	AAS.20568		237
Office Professions:			
Administrative Assistant	ABS.10296		245
Office Assistant		CBA.35291 (A)	241
Office Specialist		CBA.35292 (A)	243
Office Skills Core		CBZ.35293 (Z)	240
Personal Trainer		CSA.35742 (A)	247
Physical Therapist Assistant	AAS.20573		249
Practical Nurse (PN)		CHA.35563 (A)	252
Professional Studies in Office Administration		CBZ.35297 (Z)	254
Quality Assurance		CTZ.35877 (Z)	256
Quality Management		CTZ.35878 (Z)	257
Radiography	AAS.20545		258
Residential Construction	AAS.15887	CTA.35889 (A)	260
Respiratory Care	AAS.20579		263
Skilled Trades (Apprenticeship)			
Carpenter (Building Trades)	AAS.60900	CTA.35900	266
Electrician (Industrial)	AAS.60901	CTA.35901	268
Jobbing Molder	AAS.60902	CTA.35902	271
Machine Builder	AAS.60903	CTA.35903	274
Machine Repair	AAS.60904	CTA.35904	277
Millwright	AAS.60905	CTA.35905	280
Pattern Maker	AAS.60906	CTA.35906	283
Pipefitter (Industrial Maintenance)	AAS.60907	CTA.35907	286
Plumber-Pipefitter	AAS.60908	CTA.35908	289
Stationary Boiler Engineering	AAS.60909	CTA.35909	292
Tinsmith	AAS.60910	CTA.35910	295
Tool/Die Maker	AAS.60911	CTA.35911	298
Tool Hardener	AAS.60912	CTA.35912	301
Skilled Trades (Pre-Apprentice)			
Agriculture Maintenance		CTA.35895 (A)	304
Construction		CTZ.35896 (Z)	305
Electrical		CTA.35894 (A)	306
Mechanical		CTA.35893 (A)	307
Surgical Technology	AAS.20549	CHA.35547 (A)	308
Water Environmental Technology	AAS.15827	CTA.35827 (A)	312
Welding Engineering Technology	AAS.60897	CTA.35899 (A)	315
Writing - General Writing		CEA.35319 (Z)	317
Writing - Technical Writing		CEA.35320 (Z)	318
Youth Services		CSA.35775 (A), CSZ.35775 (Z)	319

Validation Procedures

Some programs require completion of prerequisites and a validation process before registration in restricted enrollment programs. Currently these programs are:

Health Programs

- Dental Hygiene
- Diagnostic Medical Sonography
- Nursing RN (Full-time and Part-time)
- Nursing Transition Track (Licensed Paramedic or Practical Nursing to RN)
- Physical Therapist Assistant
- Practical Nurse
- Radiography
- Respiratory Care
- Surgical Technology

Application and Validation

1. Complete all prerequisite courses as specified in this catalog. All waivers and incomplete course work must be posted on your transcript prior to application for validation. Transcripts from transfer institutions must be received within two weeks after the semester ends.
2. Obtain the Validation Application form from the Registrar's Office, Counseling, or online at *www.delta.edu*. Other documents may be required, such as observation forms as defined by the particular program.
3. Complete and submit the Validation Application to the Registrar's Office or online at *www.delta.edu* anytime during the semester in which you will complete your prerequisites.

   You may be validated and eligible for one program only.
4. Registrar's Office personnel will process your completed Validation Application.
5. Validation Applications will be validated only by Registrar's Office staff and processed no later than 30 days after the application deadline.
   a. Qualified students will be assigned a semester and year of validation which will be entered into the student's computer record (e.g., 11F or 12W or 12S).
   b. Nonqualified students must submit another Validation Application after successfully completing all required prerequisites and other qualifications.
6. The semester and year of validation will be valid for three years if renewed each year with the Application for Continuation. This form will be mailed to the address on file with the Registrar's Office.

   You need to attempt to gain entrance into a program within three years to be maintained on the validation list. If the wait to enter a program exceeds three years, you must gain entry within the earliest possible time frame by attempting to register for program entry in order to be maintained on the validation list. Notification will be sent indicating when you will be dropped from the validation list.

   After your validation eligibility expires, a new Validation Application must be submitted prior to attempting to register for the clinical sequence. You must have successfully completed all prerequisites/qualifications required at the time the new Application is submitted and may require you to take additional or repeat course work to meet the defined requirements of the program.

Delta College reserves the right to modify validation and registration procedures for programs based on demand for enrollment.

Registration

1. A special registration will be held for validated students to enter the restricted enrollment courses of these programs. Check online at *www.delta.edu/regis* for special registration dates, times, and offerings. Special registrations are usually held in June for Fall semester, and November for Winter semester.
2. For the registration process, every student will waitlist themselves and at the end of the registration period the computer system will rank order students based on several criteria. A cumulative score will be obtained by ranking the semester of validation, grades earned in selected courses as required in your program, residency status, giving preference to in-district students, total credits taken at Delta College, and overall GPA earned at Delta College. If a tie exists, the higher overall GPA will break the tie. Students will be registered based on the computer ranking.

   Individual faculty cannot add to published course capacity by accepting first-time enrolled students as overloads.
3. Each validation program semester and registration must be certified before being considered official.
4. Students not making payment by the due date (same as the first due date specified for all other students participating in registration) or voluntarily cancelling will be deleted from courses.
5. Open positions that result from the above deletions or cancellations will be filled by students on the registration waiting list.
6. Students will retain their validation through the first week of class and may not validate for another program during this time. After the first week of class, students who remain in the program, as well as students who drop, lose their validation and must resubmit a new Validation Application Form.

Special Health Program Procedures

1. Repeat students will be admitted in compliance with program re-entry procedures as outlined in specific program handbooks.
2. After completion of the special registration, registered students may be required to attend clinical orientation sessions. Alternates may be invited to these sessions. Orientation information is listed online at *www.delta.edu*.
8. You are responsible for completing all clinical courses and requirements in effect on the day the clinical sequence begins.

On the Web: *www.delta.edu*.

Academic Program Guides

Academic Career Experience - Certificate of Achievement

Program Code: CBZ.35100

Academic Career Experience (ACE), commonly known as "Cooperative (Co-op) Education," is a structured educational strategy integrating classroom studies with learning through productive, paid work experiences in a field related to a student's academic or career goals. It provides progressive experiences in integrating theory and practice. ACE is a collaboration among students, employers, and Delta College; and it provides academic credit for structured job experience.

A Certificate of Achievement in Academic Career Experience will be awarded at the completion of the Year I Experience (6 credits). An additional 4 credits can be earned if the Year II Experience is completed (10 credits total). Additional credit may also be earned through internships and/or special projects.

Year 1 Experience

Course	Credits	Course Title	Completed
ACE 105W	3	Year I Experience I - Business & Human Services **AND**	
ACE 106W	3	Year I Experience II - Business & Human Services	
		OR	
ACE 110W	3	Year I Experience I - Communications & Sciences **AND**	
ACE 111W	3	Year I Experience II - Communications & Sciences	
		OR	
ACE 115W	3	Year I Experience I - Health Science **AND**	
ACE 116W	3	Year I Experience II - Health Science	
		OR	
ACE 120W	3	Year I Experience I - Technical & Industrial **AND**	
ACE 121W	3	Year I Experience II - Technical & Industrial	
	6	**TOTAL FOR CERTIFICATE OF ACHIEVEMENT**	

Year 2 Experience

Course	Credits	Course Title	Completed
ACE 205W	2	Year II Experience I - Business & Human Services **AND**	
ACE 206W	2	Year II Experience II - Business & Human Services	
		OR	
ACE 210W	2	Year II Experience I - Communications & Sciences **AND**	
ACE 211W	2	Year II Experience II - Communications & Sciences	
		OR	
ACE 215W	2	Year II Experience I - Health Science **AND**	
ACE 216W	2	Year II Experience II - Health Science	
		OR	
ACE 220W	2	Year II Experience I - Technical & Industrial **AND**	
ACE 221W	2	Year II Experience II - Technical & Industrial	
	4	**SUBTOTAL**	

Optional Additional Credits

Course	Credits	Course Title	Completed
ACE 280W	1	Internship: Technology Management	
ACE 285W	1	Internship: Design Technology	
	2	**SUBTOTAL**	
	6	**MINIMUM TOTAL CREDITS REQUIRED FOR CERTIFICATE OF ACHIEVEMENT**	
	4	**OPTIONAL ADDITIONAL YEAR II EXPERIENCE CREDITS**	

1. All classes must be completed with a grade of "B" or better.
2. To qualify for the program, all applicants must:
   a. Have a minimum of one year of studies remaining at Delta college before graduating or transferring.
   b. Be willing to make a minimum one-year commitment to an Academic Career Experience assignment.
   c. Be a currently enrolled student at Delta College.
   d. Submit a completed Student Application and Skills Inventory Questionnaire, which can be downloaded from our website @ www.delta.edu/coop.

e. Submit most recent transcript and current resume.
f. Attend a 45-minute orientation session.
g. Enroll in and complete the required ACE courses once hired into an Academic Career Experience position.

3. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
4. Delta College reserves the right to modify graduation requirements.

Accounting - Certificate of Achievement

Program Code: CBZ.35172

Most starting jobs in accounting will involve tasks such as keeping records of day-to-day business transactions, making entries in account ledgers, monitoring cash receipts and disbursements, processing appropriate budgetary costing procedures, and preparing materials needed for financial reports.

Core Courses

Course	Credits	Course Title	Completed
ACC 211	4	Principles of Accounting I	
ACC 212	4	Principles of Accounting II	
CST 133W	4	Computer Concepts & Competencies	
MGT 153W	3	Introduction to Business	
	15	**SUBTOTAL**	

Electives (Choose 1 course from the following list)

Course	Credits	Course Title	Completed
ACC 215W	3	Federal Tax Accounting **AND**	
ACC 228W	4	Intermediate Accounting II	
		OR	
ACC 229W	(4)	Practical Intermediate Accounting **AND**	
ACC 230	(3)	Operational Business Taxes	
ACC 227W	4	Intermediate Accounting I	
ACC 233	3	Cost Accounting	
	3/4	**SUBTOTAL**	

THIS CERTIFICATE IS PART OF A LADDERED PROGRAM. CREDITS EARNED MAY BE APPLIED TOWARDS COMPLETION OF AN ACCOUNTING ADVANCED CERTIFICATE.

18/19 TOTAL CREDITS

1. A grade of "C" (2.0) or higher is required in ACC 211, ACC 212, ACC 215W, ACC 227W, ACC 228W, ACC 229W, ACC 230, ACC 233, and CST133W.
2. Proficiency in keyboarding is expected in many classes. OAT 170 is available for those students who need to build keyboarding skills. Proficiency exams are available for OAT 170.
3. Students in the certificate program are highly encouraged to take ACC 229W AND ACC 230 instead of ACC 215W and ACC 228W. ACC 229W and ACC 230 must be taken concurrently.
4. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
5. Delta College reserves the right to modify graduation requirements.

Accounting - Advanced Certificate

Program Code: CBA.35172

Most starting jobs in accounting will involve tasks such as keeping records of day-to-day business transactions, making entries in account ledgers, monitoring cash receipts and disbursements, processing appropriate budgetary costing procedures, and preparing materials needed for financial reports.

Core Courses

Course	Credits	Course Title	Completed
ACC 211	4	Principles of Accounting I	
ACC 212	4	Principles of Accounting II	
ACC 214	4	Microcomputer Accounting Applications	
CST 133W	4	Computer Concepts & Competencies	
MGT 153W	3	Introduction to Business	
OAT 151	3	Business Communication I	
	22	**SUBTOTAL**	

Electives (Choose 2-3 courses for no less than 6 credits)

Course	Credits	Course Title	Completed
ACC 215W	3	Federal Tax Accounting	
ACC 227W	4	Intermediate Accounting I **AND**	
ACC 228W	4	Intermediate Accounting II	
		OR	
ACC 229W	(4)	Practical Intermediate Accounting **AND**	
ACC 230	(3)	Operational Business Taxes	
ACC 233	3	Cost Accounting	
	6/8	**SUBTOTAL**	

THIS CERTIFICATE IS PART OF A LADDERED PROGRAM. CREDITS EARNED MAY BE APPLIED TOWARDS COMPLETION OF THE ACCOUNTING APPLIED BUSINESS STUDIES DEGREE.

28/30 TOTAL CREDITS REQUIRED

1. A grade of "C" (2.0) or higher is required in ACC 211, ACC 212, ACC 214, ACC 215W, ACC 227W, ACC 228W, ACC 229W, ACC 230, ACC 233, CST 133W, and OAT 151.
2. Proficiency in keyboarding is expected in many classes. OAT 170 is available for those students who need to build keyboarding skills. Proficiency exams are available for OAT 170.
3. Students are highly encouraged to take ACC 212 and ACC 214 at the same time.
4. Students in the certificate program are highly encouraged to take ACC 229W and ACC 230 instead of ACC 227W and ACC 228W.
5. ACC 229W and ACC 230 must be taken concurrently.
6. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
7. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Accounting Adv Cert**

Accounting Adv Cert

Total Program Cost (In District):	$4,056.40
On-Time Completion Rate:	100.00%
Program Job Placement Rate:	100.00%
Median Loan Dept:	$0.00

Accounting - Associate in Business Studies

Program Code: ABS.10172

As a graduate of Delta's Accounting associate degree program, you will have the skills to be an accounting assistant. Complexity of the work will vary with the size and volume of the employee's activities and the firm's procedures. Most starting jobs will involve tasks such as keeping records of day-to-day business transactions, making entries in account ledgers, monitoring cash receipts and disbursements, processing appropriate budgetary costing procedures, and preparing materials needed for financial reports. As you gain experience, you may assume more accounting responsibilities which could involve analyzing financial reports and advising management.

General Education Courses

Course	Credits	Course Title	Completed
COM 112W	3	Fundamentals of Oral Communication **OR**	
COM 114W	(3)	Interpersonal Communication	
ECN 221W	4	Principles of Macroeconomics	
LW ---	1	Any 1 Credit LW Course (As of fall 2007) **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
OAT 151	3	Business Communication I **AND**	
OAT 152	3	Business Communication II	
		OR	
OAT 151	(3)	Business Communication I **AND**	
ENG 111	(3)	College Composition I **AND**	
ENG 112	(3)	College Composition II	
		OR	
OAT 151	(3)	Business Communication I **AND**	
ENG 111	(3)	College Composition I **AND**	
ENG 113	(3)	Technical Communication	
PHL 203W	3	Business Ethics **OR**	
PHL 213W	(3)	Introduction to Ethics	
POL ---	3/4	Any Approved Government Requirement	
HIS 111W	(4)	A Survey of Early Western Civilization **OR**	
HIS 112W	(4)	A Survey of Later Western Civilization	
	21/29	**SUBTOTAL**	

Core Courses

Course	Credits	Course Title	Completed
	5	General Electives	
ACC 211	4	Principles of Accounting I	
ACC 212	4	Principles of Accounting II	
ACC 214	4	Microcomputer Accounting Applications	
ACC 227W	4	Intermediate Accounting I	
ACC 215W	3	Federal Tax Accounting **AND**	
ACC 228W	4	Intermediate Accounting II	
		OR	
ACC 229W	(4)	Practical Intermediate Accounting **AND**	
ACC 230	(3)	Operational Business Taxes	

ACC 233	3	Cost Accounting	_____
ACC 285	2	Professional Accounting Careers	_____
CST 133W	4	Computer Concepts & Competencies	_____
MGT 153W	3	Introduction to Business	_____
MGT 251W	3	Business Law I	_____
	43	**SUBTOTAL**	

Suggested Electives

Course	Credits	Course Title	Completed
ACC 216W	2	Volunteer Income Tax Assistance (VITA)	_____
ACC 235	3	Financial Management	_____
CJ 110W	3	Introduction to Criminal Justice	_____
CST 128	4	PC Hardware Concepts and Troubleshooting	_____
CST 155	3	Microsoft EXCEL	_____
CST 235	3	Systems Analysis and Design	_____
CST 257	3	Database MS Access	_____
CST 267	3	Introduction to Computer Forensics	_____
ECN 222W	4	Principles of Microeconomics	_____

64/72 TOTAL CREDITS

1. A grade of "C" (2.0) or higher is required in ACC 211, ACC 212, ACC 214, ACC 215W, ACC 227W, ACC 228W, ACC 229W, ACC 230, ACC 233, CST 133W, OAT 151, OAT 152 (or ENG equivalents).
2. ACC 285 is a Key course and must be completed within 5 years of completing certificate or degree. Failure to complete within the stated time frame will require you to repeat this course. See graduation requirements page in catalog.
3. The above program is primarily intended to prepare you for a career upon graduation from Delta College. If you plan to transfer to a four-year college or university other than Northwood University, you should use a Business Administration program guide and consult a counselor. Be sure to check with your transfer school for transferability of courses.
4. ACC 229W and ACC 230 are strongly recommended for students in the 2-year degree program. If you are planning to transfer, you should take ACC 215W and ACC 228W. Northwood 3+1 students should follow the 3+1 guide.
5. COM 112 is required for the 2-year program. Students enrolled in the Northwood 3 + 1 program may take COM 112 or COM 114.
6. HIS 111 or HIS 112 is required for Northwood 3 + 1 students only.
7. OAT 151 must be completed for the degree. ENG 111 and ENG 112; or ENG 111 and ENG 113 may be substituted for OAT 152.
8. Students are highly encouraged to take ACC 212 and ACC 214 at the same time.
9. Proficiency in keyboarding is expected in many classes. OAT 170 is available for those students who need to build keyboarding skills. Proficiency exams are available for OAT 170.
10. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
11. Delta College reserves the right to modify graduation requirements.

Alternative Energy - Wind Turbine Technology - Associate in Applied Science

Program Code: AAS.15805

The Associate Degree Program in Alternative Energy/Wind Turbine Technology prepares you for employment as a wind turbine technician. Duties of a wind turbine technician include operating and maintaining giant wind turbine units, performing mechanical and electrical troubleshooting, as well as repair and preventative maintenance. This technician uses computers and has an understanding of hydraulics, electricity, algebra, and meteorology. Working about 250 feet above the ground requires this professional to set aside any fears of heights. Teamwork is key to success in this position where safety and a smooth-running work environment are critical.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3/5	Any Approved College Composition I Course	
ENG 113	3	Technical Communication	
LW 223W	2	Wellness in Technical Trades	
MTH 119W	4	Intermediate Algebra	
GEO 103W	4	Introduction To Meteorology	
PHY ---	4/5	Any Approved Physics	
POL ---	3/4	Any Approved American Government Requirement	
	23/27	**SUBTOTAL**	

Basic Program Requirements

Course	Credits	Course Title	Completed
CST 133W	4	Computer Concepts & Competencies	
CST 160	3	Networking Essentials	
ET 110W	3	DC Electrical Fundamentals	
ET 120	3	AC Electrical Fundamentals	
ET 122	4	Programmable Logic Controllers	
ET 130	3	Advanced Electrical Applications	
ET 140	3	Fundamentals of Electrical Motors and Motor Controls	
MT 151	3	Power Transmission	
MT 161	2	Industrial Rigging	
MT 220	3	Hydraulics & Pneumatics I	
	31	**SUBTOTAL**	

Wind Turbine Technology Courses

Course	Credits	Course Title	Completed
WTT 100	3	Introduction to Wind Energy	
WTT 110	2	Climb Safety and Rescue Safety Training	
WTT 120W	3	Wind Turbine Mechanical Systems	
WTT 215	2	Wind Turbine Blade Design	
WTT 230	1	Wind Turbine Schematics	
WTT 240	2	Power Generation, Transmission, and Distribution	
WTT 280	3	Fundamentals of Data Acquisition	
	16	**SUBTOTAL**	
	70/74	**TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE**	

1. A grade of "C" (2.0) or higher is required in all courses for the degree.
2. Any College PHY or SKPH course (except PHY 213) meets the requirements for this degree.
3. You will be required to get permission before enrolling in the WTT 110 and WTT 120 courses. Students will be admitted into the WTT sequence courses in groups of 12 students. An application must be submitted to the Alternative Energy/Wind Turbine Technology Program Coordinator between midterm and the last day of the semester in which you will complete your prerequisites. Prerequisite courses are: ET 110W, ET 120, MT 151, MT 161, MT 220, MTH 119, and any approved PHY course, or transfer equivalents. Forms are available online or in both the Counseling and Registrar's Offices. Contact the Technical, Trades, and Manufacturing Division at 989-686-9258 for more information.
4. Student is responsible for equipment, tools, and gear as required. Cost may exceed $200. Equipment for WTT 110 includes all-leather work gloves, OSHA approved safety glasses and safety work boots.
5. Students will be responsible for completing a Student Physical Examination Form prior to the first day of WTT 110 class. The examination form can

be obtained from Counseling or the WTT Program Coordinator.

6. Due to industry standards related to safety equipment, student weight must not exceed 250 lbs.
7. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
8. Delta College reserves the right to modify graduation requirements.

Architectural Technology - Associate in Applied Science

Program Code: AAS.15872

As an Architectural Technician, you may assist licensed architects, construction engineers, urban planners and other design personnel in most phases of the development of building or site projects. This program has an emphasis on job entry skill development for employment in occupations such as: draftsperson, for installation and shop drawings; building appraiser for financial institutions or real estate firms, estimator or supervisor for contractors; inspector for government agencies.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course **AND**	
ENG ---	3	Any Approved College Composition II Course	
		OR	
ENG ---	(3)	Any Approved College Composition I Course **AND**	
ENG 113	(3)	Technical Communication	
LW 220W	1	Lifelong Wellness **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
		OR	
LW 223W	(2)	Wellness in Technical Trades	
POL ---	3/4	Any Approved American Government Requirement	
MTH---	3/4	Any Approved Intermediate Algebra Course or Higher	
	14/16	**SUBTOTAL**	

Core Program Requirements

Course	Credits	Course Title	Completed
ARC 101	3	Materials and Methods of Construction	
ARC 111	3	Mechanical and Electrical Systems for Buildings	
ARC 204	3	Estimating Building Construction	
ARC 211	2	Elements of Structural Design	
ARC 221	3	Site Preparation	
RC 101	3	Construction Print Interpretation	
TTI 110	2	Sustainable Building Principles	
	19	**SUBTOTAL**	

Successful completion of the Core Program courses prepare the student for completing the Architectural Technology Associate Degree, the Construction Management Associate Degree, or the Residential Construction Degree. Please refer to the catalog page for the relevant Program Requirement Courses.

Architectural Technology Program Requirements

Course	Credits	Course Title	Completed
ARC 105	4	Architectural Drafting I	
ARC 106	4	Architectural Drafting II	
ARC 114	3	Architectural AutoCAD 2D Basics	
ARC 205	3	Architectural Drafting III	
ARC 206	3	Architectural Drafting IV	
ARC 214	3	Architectural AutoCAD 3D Basics	
ARC 224	3	Building Information Modeling	
ART 111	3	Drawing I	
ART 251W	3	Architectural History	
	29	**SUBTOTAL**	

Approved Electives (Choose one or two courses totaling a minimum of 3 credits)

Course	Credits	Course Title	Completed
ART 107	3	Elements of Photography	
ART 101	3	Photography I	
ART 221	3	Photography II	
ART 112	3	Drawing II	
ART 115	3	Two-Dimensional Design	
ART 116	3	Three Dimensional Design	
ART 206	3	Digital Photography	
CST ---	1/4	Any Computer Science & Information Technology Course	
ENT 131W	3	Entrepreneurship/Small Business Management I	
MGT 145	3	Principles of Sales	
MGT 153W	3	Introduction to Business	
MGT 251W	3	Business Law I **OR**	
ENT 221W	(3)	Law for Entrepreneurs	
MTH ---	3/4	Any Math Course (121 or higher)	
RC ---		Any Residential Construction Course that is not co-listed	
	3/4	**SUBTOTAL**	
	65/67	**TOTAL CREDITS**	

1. A grade of "C" (2.0) or higher is required in ARC 101, ARC 106, ARC 205, ARC 206, ARC 211.
2. Courses ARC 105, 106, 205, 206 must be taken in sequential order. For information about day and/or evening availability of courses, contact a technical career counselor.
3. This program prepares you for a technical level career, but some courses are transferable to baccalaureate degree programs in Architecture. If you want to be an architect, you are advised to consult with a counselor about transfer requirements.
4. Students planning to transfer should take any approved College Composition II requirement.
5. Any MTH 119 or higher (except MTH 153) meets the Math requirement for this program.
6. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
7. Delta College reserves the right to modify graduation requirements.

Art + Design - Associate in Fine Arts

Program Code: AFA.40380

The Associate in Fine Arts Degree is awarded to Art + Design program students who successfully complete the required 62-credit minimum course of study. The program and degree are designed to prepare you for entry-level jobs and/or to successfully transfer into Bachelor of Arts (BA) or Bachelor of Fine Arts (BFA) degree programs. The chronologically sequenced courses provide a balance of art history, art studio, design studio, graphic design and MACRAO approved general education courses.

Delta's AFA degree Art + Design program constructs a solid foundation for professional or further academic pursuits in: advertising, animation, art criticism and theory, art education, art history, ceramics, digital media, drawing, graphic design, fashion design, furniture design, illustration, industrial design, interactive and multimedia graphics, painting, photography, printmaking, product design, sculpture, textile design, transportation design, visual communications, web design, or a wide variety of related visual fields.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course	
ENG ---	3	Any Approved College Composition II Course	
---	1	Any Approved Humanities other than ART (MACRAO)	
LW ---	1	Any 1 Credit LW Course (As of Fall 2007) **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW 221W	(2)	Any 2 Credit LW Course (As of Fall 2007)	
POL ---	3/4	Any Approved American Government Requirement **AND**	
---	4/5	Any Approved Social Science Requirement Other than POL	
--- ---	8	Approved Natural Science Credits with one lab course	
	25	**SUBTOTAL**	

Required Courses - A - (Recommended for First Semester)

Course	Credits	Course Title	Completed
ART 111	3	Drawing I	
ART 115	3	Two-Dimensional Design	
ART 151W	3	Art History and Appreciation I	
	9	**SUBTOTAL**	

Required Courses - B - (Recommended for Second Semester)

Course	Credits	Course Title	Completed
ART 112	3	Drawing II	
ART 116	3	Three-Dimensional Design	
ART 152W	3	Art History and Appreciation II	
	9	**SUBTOTAL**	

Required Courses - C - (Recommended for Third and Fourth Semesters)

Course	Credits	Course Title	Completed
--- ---	3-9	Art History Courses	
--- ---	3-9	Ceramics & Sculpture Studio Courses	
--- ---	3-12	Digital Media-Graphic Design-Photography Studio Courses	
--- ---	3-12	Drawing & Painting Studio Courses	
--- ---	0-3	Optional ART Course	
	19/21	**SUBTOTAL**	

CHOOSE FROM LISTS BELOW TO MEET REQUIRED COURSES - C (AT LEAST ONE COURSE IS REQUIRED FROM EACH CATEGORY)

Art History Course Options

Course	Credits	Course Title	Completed
ART 251W	3	Architectural History	
ART 255W	3	Contemporary Art History	
ART 256W	3	Art History Travel	

Ceramics-Sculpture Studio Course Options

Course	Credits	Course Title	Completed
ART 222	3	Sculpture	
ART 231	3	Ceramics I	
ART 232	3	Ceramics II	

Digital Media-Graphic Design-Photography Studio Course Options

Course	Credits	Course Title	Completed
ART 201	3	Introduction to Graphic Design	
ART 224	3	Photography	
ART 241	3	Graphics Studio 1	
ART 242	3	Graphics Studio 2	
ART 243	3	Graphics Studio 3	
ART 284	3	Typography	
ART 286	3	Digital Animation	

Drawing-Painting Studio Course Options

Course	Credits	Course Title	Completed
ART 210	3	Figure Drawing	
ART 217	3	Painting I	
ART 218	3	Painting II	
ART 220	3	Mural Painting	

62/64 TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE

1. A “C” minimum grade is required in all ART courses.
2. Taking 2 general education courses per semester is suggested.
3. Credit earned in ART 113 Art Education, ART 262 Art & Design Internship (1-3 cr), ART 289 Art Portfolio, or ART 290-299 Art & Design Special Projects courses may satisfy the 0-3 credits for Optional Course in “Required Courses - C” category.
4. File an application for an associate or dual degree and/or certificate with the Registrar’s Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
5. Delta College reserves the right to modify graduation requirements.
6. If you plan to pursue an advanced degree, see pages ADVANVED_DEGREE_PAGES for special transfer agreements.

Automotive Service Educational Program (GM ASEP) - Associate in Applied Science

Program Code: AAS.60842

The GM Automotive Service Educational Program (ASEP) is an associate degree automotive program designed to upgrade your technical competence and professional level to an incoming dealership technician. At Delta College, the program requires 111 weeks of training to complete. Approximately 60 of those weeks are spent on the Delta College campus. The remainder of the time spent in this two-year period is in a General Motors dealership or an AC Delco Total Service Support (TSS) repair facility. Each specialized subject is dealt with in the classroom and laboratory on campus and is immediately followed by related work experience in the dealership/TSS. This rotation system continues until the program is completed. This is a suggested enrollment sequence for full time students. It is suggested that part time students see an advisor for scheduling assistance.
NOTE: There is a special application for this program and each student is required to be sponsored by a General Motors dealership or an AC Delco repair facility. For more information, please contact ASEP Coordinator: (989) 686-9594
The automotive courses must be taken in the semesters specified.

First Semester (Fall)

Course	Credits	Course Title	Completed
AGM 110	4	Automotive Electronics Service	
AGM 112	6	Engine Service	
AGM 114	5	Brakes, ABS, TCS Service	
COM 114W	3	Interpersonal Communication	
	18	**SUBTOTAL**	

Second Semester (Winter)

Course	Credits	Course Title	Completed
AGM 134	2	Dealership Work Experience I	
WELD 101	1	Exploratory Oxy-Fuel Welding and Cutting	
	3	**SUBTOTAL**	

Third Semester (Spring/Summer)

Course	Credits	Course Title	Completed
AGM 210	3	Body Electronics Service	
AGM 212W	7	Suspension System Service	
AGM 214	5	Heating/Air Conditioning	
LW 221W	2	Fitness and Wellness	
	17	**SUBTOTAL**	

Fourth Semester (Fall)

Course	Credits	Course Title	Completed
AGM 143	2	Dealership Work Experience II	
ENG ---	3	Any Approved College Composition I Course	
POL ---	3/4	Any Approved American Government Requirement	
	8/9	**SUBTOTAL**	

Fifth Semester (Winter)

Course	Credits	Course Title	Completed
AGM 216	6	Driveline Service	
AGM 218W	8	Automatic Electronic Transmission Service	
	14	**SUBTOTAL**	

Sixth Semester (Spring/Summer)

Course	Credits	Course Title	Completed
AGM 226	7	Advance Engine Electronics & Fuel System Service (GM)	
AGM 228W	7	Electronic Engine Performance & Emission Control	
AGM 234	2	Dealership Work Experience III	

ENG ---	3	Any Approved College Composition II Course **OR**	_____
ENG 113	(3)	Technical Communication	_____
	19	**SUBTOTAL**	
	79/80	**TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE**	

1. AGM 134, AGM 143, AGM 234 are taught at a dealership/AC Delco TSS Center and begin late in the semester indicated and are completed in the following semester.
2. Since half of the program is spent at the dealership/TSS, you are required to have a sponsoring General Motors dealer or an AC Delco TSS Center. The main responsibility of the dealership/TSS is to provide employment during all of the work experience periods.
3. All tuition, fees, housing (if needed), textbook costs, and tools are your responsibility.
4. WELD 101 may be a weekend course.
5. For more information call ASEP Coordinator (989) 686-9351, Fax (989) 667-2207.
6. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
7. Delta College reserves the right to modify graduation requirements.
8. If you plan to pursue an advanced degree, see pages ADVANVED_DEGREE_PAGES for special transfer agreements.

Automotive Service Technology - Advanced Certificate

Program Code: CTA.35845

In addition to being trained to enter the automotive field as a technician or service writer, you will have a broader based education by completing the associate degree. You may also choose to continue your education by seeking a baccalaureate degree. Both certificate and associate degree are available. Both the certificate and associate degree options provide hybrid technology.

Required Introductory Courses

Course	Credits	Course Title	Completed
AUT 100	3	Introduction to Automotive Service	
AUT 108	3	Introductory Automotive Electronics	
WELD 101	1	Exploratory Oxy-Fuel Welding and Cutting	
WELD 108	1	Exploratory Gas Metal Arc Welding	
	8	**SUBTOTAL**	

Required Advanced Courses

Course	Credits	Course Title	Completed
AUT 110	4	Automotive Electronics Service	
AUT 112W	6	Engine Service	
AUT 114	5	Brake System Service	
AUT 210W	3	Body Electronics Service	
AUT 212W	7	Suspension System Service	
AUT 214W	5	Heating/Air Conditioning Service	
AUT 216	6	Driveline Service	
AUT 218W	8	Automatic Electronic Transmission Service	
AUT 226	7	Advance Engine Electronics & Fuel System Service	
AUT 228W	7	Electronic Engine Performance & Emission Control	
	59	**SUBTOTAL**	

Required Internship

Course	Credits	Course Title	Completed
AUT 261	1	Auto Service Skills Internship I	
	1	**SUBTOTAL**	

Electives (Not Required)

Course	Credits	Course Title	Completed
AUT 239	1	Automotive Service Information Systems	
AUT 252	5	Automotive Performance Fundamentals	

67 TOTAL CREDITS

1. A grade of "C" (2.0) or higher is required in AUT 100, AUT 108, AUT 110, AUT 112, AUT 114, AUT 210, AUT 212, AUT 214
2. AUT 112, AUT 218, AUT 226, AUT 228, are Key courses and must be completed within 5 years of completing certificate. Failure to complete within the stated time frame will require you to repeat this course. See graduation requirements page in catalog.
3. The Automotive Service Skills Internship (AUT 261) requires a State of Michigan Motor Vehicle Training Permit; Motor Vehicle Mechanic Certifications in all areas; or a combination of both that would cover all areas. The student must consult with the automotive faculty before starting their internships. The student will be responsible for obtaining the place of employment for the internship which must be acceptable by Delta College. One internship is required for the certificate.
4. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
5. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Auto Serv Tech Adv Cert**

Auto Serv Tech Adv Cert

Total Program Cost (In District):	$9,520.80
On-Time Completion Rate:	NA
Program Job Placement Rate:	50.00%
Median Loan Dept:	NA

Automotive Service Technology - Associate in Applied Science

Program Code: AAS.15844

In addition to being trained to enter the automotive field as a technician or service writer, you will have a broader based education by completing the associate degree. You may also choose to continue your education by seeking a baccalaureate degree. Both certificate and associate degree are available. Both the certificate and associate degree options provide hybrid technology.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course	
ENG 113	3	Technical Communication	
ENV 130W	1	Pollution Prevention	
MGT 110	3	Business Mathematics	
LW ---	1	Any Lifelong Wellness Course **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
POL ---	3/4	Any Approved American Government Requirement	
	15/16	**SUBTOTAL**	

Introductory Automotive Courses

Course	Credits	Course Title	Completed
AUT 100	3	Introduction to Automotive Service	
AUT 108	3	Automotive Electronics	
WELD 101	1	Exploratory Oxy-Fuel Welding and Cutting	
WELD 108	1	Exploratory Gas Metal Arc Welding	
	8	**SUBTOTAL**	

Advanced Automotive Courses

Course	Credits	Course Title	Completed
AUT 110	4	Automotive Electronics Service	
AUT 112W	6	Engine Service	
AUT 114	5	Brake System Service	
AUT 210W	3	Body Electronics Service	
AUT 212W	7	Suspension System Service	
AUT 214W	5	Heating/Air Conditioning Service	
AUT 216	6	Driveline Service	
AUT 218W	8	Automatic Electronic Transmission Service	
AUT 226	7	Advance Engine Electronics & Fuel System Service	
AUT 228W	7	Electronic Engine Performance & Emission Control	
	58	**SUBTOTAL**	

Internship Classes

Course	Credits	Course Title	Completed
AUT 261	1	Auto Service Skills Internship I	
AUT 262	1	Auto Service Skills Internship II	
	2	**SUBTOTAL**	

Electives (Not required)

Course	Credits	Course Title	Completed
AUT 239	1	Automotive Service Information Systems	
AUT 252	5	Automotive Performance Fundamentals	

83/84 TOTAL CREDITS

1. A grade of "C" (2.0) or higher is required in AUT 100, AUT 108, AUT 110, AUT 112, AUT 114, AUT 210, AUT 212, AUT 214.
2. AUT 112, AUT 218, AUT 226, AUT 228 are Key courses and must be completed within 5 years of completing degree. Failure to complete within the stated time frame will require you to repeat this course. See graduation requirements page in catalog.
3. The Automotive Service Skills Internships (AUT 261, AUT 262) require a State of Michigan Motor Vehicle Training Permit; Motor Vehicle Mechanic Certifications in all areas; or a combination of both that would cover all areas. The student must consult with the automotive faculty before starting their internships. The student will be responsible for obtaining the place of employment for the internships which must be acceptable by Delta College. Two internships are required for an associate degree.
4. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
5. Delta College reserves the right to modify graduation requirements.
6. If you plan to pursue an advanced degree, see pages ADVANVED_DEGREE_PAGES for special transfer agreements.

Chemical Process Technology - Advanced Certificate

Program Code: CSA.35835

To earn an advanced certificate, students must meet one of the following criteria: the student has already earned a technical associate, bachelor, or greater degree; military experience; over 8000 hours industrial experience; or a journeyman's card.
The operator role includes but is not limited to the following functions: knowledge and upholding of the standards regarding health, safety and the environment; working with the handling, transporting, storage and disposal of chemicals and other materials in compliance with all state and federal regulations; the operation, monitoring, and controlling of process both continuous and batch; interfacing with chemical engineers and technician co-workers involved with these processes; and managing normal maintenance of equipment, calibration of instrumentation, and troubleshooting as needed.

Certificate Requirements

Course	Credits	Course Title	Completed
CPI 115	2	Chemical Plant Science Fundamentals	
CPI 120	2	Introduction To Process Operations	
CPI 210	4	Basic Chemical and Unit Operations	
CPI 220	3	Process Measurement	
CPI 230	3	Process Control	
CPI 240W	3	Process Troubleshooting	
CPI 245	3	Environmental Health, & Safety in Chemical Process Industry	
CPI 250W	4	Advanced Chemical Operations	
CPI 260W	4	Process Operations Management	
CPI 270	2	Advanced Process Operations Lab	

30 TOTAL CREDITS REQUIRED FOR CERTIFICATE

1. To earn an advanced certificate, you must meet one of the following criteria: have already earned a technical associate, bachelor or greater degree; military experience; over 8000 hours industrial experience; or a journeyman's card.
2. CPI 115 and CPI 245 require instructor permission to register.
3. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
4. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Chem Proc Tech Adv Cert**

Chem Proc Tech Adv Cert

Total Program Cost (In District):	$4,344.00
On-Time Completion Rate:	90.20%
Program Job Placement Rate:	NA
Median Loan Dept:	$0.00

Chemical Process Technology - Associate in Applied Science

Program Code: AAS.15829

The Associate Degree Program in Chemical Process Technology prepares the student for employment as a process operator in the chemical/material processing industry. The operator role includes but is not limited to the following functions: knowledge and upholding of the standards regarding health, safety and the environment; working with the handling, transporting, storage and disposal of chemicals and other materials in compliance with all state and federal regulations; the operation, monitoring, and controlling of process both continuous and batch; interfacing with chemical engineers and technician co-workers involved with these processes; and managing normal maintenance of equipment, calibration of instrumentation, and troubleshooting as needed.

Core Courses

Course	Credits	Course Title	Completed
CPI 120	2	Introduction To Process Operations	
CPI 210	4	Basic Chemical And Unit Operations	
CPI 220	3	Process Measurement	
CPI 230	3	Process Control	
CPI 240W	3	Process Troubleshooting	
CPI 250W	4	Advanced Chemical Operations	
CPI 260W	4	Process Operations Management	
CPI 270	2	Advanced Process Operations Lab	
	25	**SUBTOTAL**	

General Education Courses

Course	Credits	Course Title	Completed
CHM 105W	5	Technical Chemistry I	
CHM 106W	5	Technical Chemistry II	
COM 112W	3	Fundamentals of Oral Communication	
		OR	
COM 114W	(3)	Interpersonal Communication	
ENG ---	3	Any Approved College Composition I Course	
ENG ---	3	Any Approved College Composition II Course	
		OR	
ENG 113	(3)	Technical Communication	
ENV 100W	3	Environmental Regulations	
ENV 152	1.6	Emergency Response To Industrial Spills	
LW ---	1	Any 1 Credit LW Course (As of fall 2007) **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW 223W	(2)	Wellness in Technical Trades	
MTH ---	4	Any Approved Intermediate Algebra Course (or higher Math course)	
MTH 208W	3	Elementary Statistics	
PHY 101	4	Applied Physics	
		OR	
PHY 111	(4)	General Physics I	
		OR	
PHY 211	(5)	Physics I	
POL ---	3/4	Any Approved American Government Requirement	
	39.6/41.6	**SUBTOTAL**	

Recommended Electives

Course	Credits	Course Title	Completed
CST 133W	4	Computer Concepts & Competencies	

64.6/66.6 TOTAL CREDITS

1. A "C" (2.0) or higher is required in all core courses as well as CHM, MTH, and PHY general education courses.
2. If your computer experience is limited, CST 133 is also suggested.
3. Intermediate Algebra and Applied Physics may also be met with an acceptable score on current college assessment instruments. Contact Assessment/Testing office at 989-686-9338 for more details. Credits to meet graduation requirements may then be met by completing additional electives.
4. Transfer students may be advised to complete CHM 111, CHM 112, CHM 210, and CHM 210L instead of CHM 105 and CHM 106.
5. Transfer students may be advised to complete either PHY 111 or PHY 211 instead of PHY 101.
6. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
7. Delta College reserves the right to modify graduation requirements.

Chemical Technology - Laboratory Science - Advanced Certificate

Program Code: CTA.35464

Laboratory work is a very interdisciplinary activity that requires a broad spectrum of technical and practical skills. This advanced certificate is designed to assist you in obtaining a broad set of science skills and techniques necessary to work in a laboratory.

Certificate Requirements

Course	Credits	Course Title	Completed
BIO 171	4	Integrated General Biology I	_____
		OR	
BIO 203W	(4)	General Microbiology	_____
CHM 111	5	General and Inorganic Chemistry I	_____
CHM 112	5	General and Inorganic Chemistry II	_____
CHM 210LW	1	Organic Chemistry I Laboratory	_____
CHM 220LW	1	Organic Chemistry II Laboratory	_____
CHM 230	4	Chemical Analysis/Instrumentation	_____
SCI 250	4/6	Research Project In Science	_____
	24/26	**TOTAL CREDITS**	

1. A minimum of 4 credits must be satisfactorily completed for the certificate, however, in consultation with faculty, a research project for up to 6 credits may be chosen.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Chemical Technology - Pre-Medical Laboratory Science - Advanced Certificate

Program Code: CHA.35464

Medical laboratory scientists work in clinical settings to perform a variety of routine and specialized laboratory tests. Health care providers use these test results as part of their diagnostic and therapeutic plans. This Advanced Certificate is designed to expand student opportunities in laboratory science; expanding their repertoire of skills and techniques, for transfer and enrollment into a professional program in medical laboratory sciences at regional 4-year institutions.

Certificate Requirements

Course	Credits	Course Title	Completed
BIO 171	4	Integrated General Biology I	
BIO 203W	4	General Microbiology	
BIO 240	4	Human Anatomy **AND**	
BIO 241	4	Physiology	
		OR	
BIO 152W	(4)	Human Anatomy & Physiology I **AND**	
BIO 153W	(4)	Human Anatomy & Physiology II	
CHM 111	5	General and Inorganic Chemistry I	
CHM 112	5	General and Inorganic Chemistry II	
CHM 210	4	Organic Chemistry I	
PHY 111	4	General Physics I	
		OR	
PHY 211	(5)	Physics I	
	34/35	**TOTAL CREDITS**	

1. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
2. Delta College reserves the right to modify graduation requirements.
3. If you plan to pursue an advanced degree, see pages Page 29 for special transfer agreements.

Chemical Technology - Associate in Applied Science

Program Code: AAS.15464

A degree in Chemical Technology may transfer or could lead to a position with area employers as a Technologist. As a Chemical Technologist, you will operate many kinds of laboratory instruments, be involved with data collection and analysis, and do technical report writing and research projects. This Associate in Applied Science program includes core courses that allow flexibility in choosing a technical focus. Degrees in Water/Wastewater Treatment Technology, Chemistry, Biology, Physics, Clinical Laboratory Science, or Engineering may also be pursued using most of the credits from this program.

General Education Courses-General

Course	Credits	Course Title	Completed
COM 112W	3	Fundamentals of Oral Communication	
		OR	
COM 114W	(3)	Interpersonal Communication	
CST 133W	4	Computer Concepts & Competencies	
		OR	
CST 134	(3)	Micro Computers in Business Using MS Office	
ENG ---	3	Any Approved College Composition I Course	
ENG ---	3	Any Approved College Composition II Course	
		OR	
ENG 113	(3)	Technical Communication	
MTH 208W	3	Elementary Statistics	
LW ---	1	Any 1 Credit LW Course (As of fall 2007) **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
POL ---	3/4	Any Approved American Government Requirement	
--- ---	5	Humanities Elective	
--- ---	4/5	Social Science Elective	
	29/32	**SUBTOTAL**	

General Education Courses-Science I

Course	Credits	Course Title	Completed
PHY 101	4	Applied Physics **OR**	
PHY 111	(4)	General Physics I **OR**	
PHY 211	(5)	Physics I	
	4/5	**SUBTOTAL**	

General Education Courses-Science 2

Course	Credits	Course Title	Completed
PHY 112	4	General Physics II **OR**	
PHY 212	(5)	Physics II **OR**	
BIO 110W	(4)	Environmental Science **OR**	
BIO 111W	(4)	Principles of Biology **OR**	
BIO 171	(4)	Integrated General Biology I **OR**	
BIO 199	(4)	Human Heredity And Sexuality **OR**	
BIO 203W	(4)	General Microbiology	
	4/5	**SUBTOTAL**	

Core Courses

Course	Credits	Course Title	Completed
CT 101	1	Introduction to Chemical Technology	
CHM 111	5	General and Inorganic Chemistry I	
CHM 112	5	General and Inorganic Chemistry II	
CHM 210	4	Organic Chemistry I	
CHM 210LW	1	Organic Chemistry I Laboratory	
CHM 220	4	Organic Chemistry II	
CHM 220LW	1	Organic Chemistry II Laboratory	
CHM 230	4	Chemical Analysis/Instrumentation	
CHM 231	1	Troubleshooting For Analytical Instrumentation	
SCI 249	1	Scientific Research Development	
SCI 250	2/6	Research Project In Science	
	29/33	**SUBTOTAL**	

Recommended Electives

Course	Credits	Course Title	Completed
CHM 221	3	Organic Biochemistry	
MTH 121	3	Plane Trigonometry	
MTH 151	4	Pre-Calculus Mathematics	
MTH 161	4	Analytic Geometry and Calculus I (and higher)	
WET 110	3	Water Treatment Technologies	
WET 112	3	Wastewater Treatment Technology	
BIO 274	2	Introduction to Biotechnology	

66/79 TOTAL CREDITS

1. It is highly recommended that students take CT 101 early in their coursework.
2. A minimum of two credits is required for SCI 250. However, in consultation with faculty, a research project for up to 6 credits may be chosen.
3. PHY 101, 111, and 211 may transfer as Physics or Science credit only, depending on the institution.
4. PHY 101 is not recommended for students who wish to take PHY 112 or PHY 212. Students wishing to take PHY 112 should enroll in PHY 111. Students wishing to take PHY 212 should enroll in PHY 211.
5. Humanities courses must be completed in at least two different subject areas. Consult this catalog for a list of approved Humanities courses.
6. SCI 250 Research Projects in Science is offered on a continual basis through individual instruction with Chemistry faculty mentors. Go to http://www.delta.edu/science/chemistry/contactus.aspx for a list of Chemistry faculty.
7. You may be eligible for the MACRAO certificate. Consult the current catalog for MACRAO requirements.
8. To have the MACRAO stamp placed on your transcript, fill out a MACRAO Request Form at the Records Office with the Graduation Request.
9. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
10. Delta College reserves the right to modify graduation requirements.
11. If you plan to pursue an advanced degree, see pages ADVANVED_DEGREE_PAGES for special transfer agreements.

Child Development - Educational Paraprofessional - Certificate of Achievement

Program Code: CSZ.35763

Child development teachers work in a variety of settings providing care and guidance of young children. This includes concern for the mental, social, physical, and emotional growth and development of the child. As a child development teacher, you should be able to work under supervision and work cooperatively with other personnel. Each employee should gain the respect, confidence, and cooperation of children, maintain discipline, and enforce as well as deal with emergency situations calmly. Physically, you must maintain good health and be able to stoop, kneel, crouch, and crawl. Good vision and hearing are necessary as well as being able to lift up to 40 pounds. Applicants for child development positions are required to pass medical and physical clearances and be free of communicable diseases. A DHS clearance for child abuse/neglect is required.

The Educational Paraprofessional Certificate of Achievement is designed to assist students in obtaining the skills necessary to work as paraprofessionals in pre-K and early elementary classrooms. This certificate stresses the importance of understanding child and family diversity, special needs populations, and developmentally appropriate discipline. By completing the certificate, a student can supplement the Advanced Certificate or Associate in Applied Arts degree or use it to directly gain employment.

The curriculum is aligned with the standards issued by the National Association for The Education of Young Children

Certificate Requirements

Course	Credits	Course Title	Completed
CD 109W	2	Introduction to the Educational Paraprofessional	_____
CD 113W	4	Child Guidance Strategies	_____
CD 116W	3	Diversity and Families in Early Childhood Education	_____
ED 201W	3	Education of the Exceptional Child	_____

12 TOTAL CREDITS REQUIRED

1. CD 113W is a Key course and must be completed within 5 years of completing certificate. Failure to complete within the stated time frame will require you to repeat this course. See graduation requirements page in catalog.
2. A grade of “C” (2.0) or higher is required in all courses for the certificate.
3. File an application for an associate or dual degree and/or certificate with the Registrar’s Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
4. Delta College reserves the right to modify graduation requirements.

Child Development - Advanced Certificate

Program Code: CSA.35763

Child development teachers work in a variety of settings providing care and guidance of young children. This includes concern for the mental, social, physical, and emotional growth and development of the child. As a child development teacher, you should be able to work under supervision and work cooperatively with other personnel. Each employee should gain the respect, confidence, and cooperation of children, maintain discipline, and enforce as well as deal with emergency situations calmly. Physically, you must maintain good health and be able to stoop, kneel, crouch, and crawl. Good vision and hearing are necessary as well as being able to lift up to 40 pounds. Applicants for child development positions are required to pass medical and physical clearances and be free of communicable diseases. A DHS clearance for child abuse/neglect is required.

The Child Development Certificate prepares students for positions as assistant teachers or teachers in early childhood education and care programs. Students learn to plan and implement high quality, developmentally appropriate programs for all ages of children, infants through school-age, in both centers and family child care homes.

The curriculum for the certificate is aligned with the standards issued by the National Association for the Education of Young Children.

Certificate Requirements

Course	Credits	Course Title	Completed
CD 110W	4	Infant/Toddler Development	
CD 111W	3	Introduction to Early Childhood Education	
CD 112W	3	Learning Center Activities	
CD 113W	4	Child Guidance Strategies	
CD 115PW	3	Introductory Preschool Practicum	
CD 116W	3	Diversity and Families in Early Childhood Education	
CD 117W	6	Student Teaching Practicum	
ED 201W	3	Education of the Exceptional Child	
LWT 165	1	Community First Aid	
PSY 211W	4	General Psychology	
PSY 223W	3	Child Psychology	

37 TOTAL CREDITS REQUIRED

1. CD 110W, CD 111W, CD 113W, CD 115PW, are Key courses and must be completed within 5 years of completing certificate. Failure to complete within the stated time frame will require you to repeat this course. See graduation requirements page in catalog.
2. A grade of "C" (2.0) or higher is required in all courses for the certificate.
3. CD 111W and CD 115PW may be articulated if the student has earned a CDA credential (Center-based Preschool and Family Child Care CDAs), an elementary education degree or a high school career-technical certificate. CD 110W and CD 111W may be articulated if the student has earned a Center-based Infant Toddler CDA credential. Articulated credits will not count towards DHS requirements for a director using a CDA certificate. The 18 required credits for a child care director must be regular classes with a grade for credit.
4. A Child Development information session is held in November, April and August. CD 110W, CD 113W, CD 115PW, and CD 117W students must attend one of these sessions. Be sure you notify the Counseling Office to state your major as Child Development.
5. All CD 110W, 113W, 115PW, and 117W students must complete the following and submit the appropriate documentation to the program coordinator: 1) TB Skin Test. You must submit evidence of freedom from communicable tuberculosis by medical clearance/physical; 2) Acknowledgment and Release Form. You will be required to sign a document asking whether you have ever been convicted of an offense other than a minor traffic violation, and whether you have ever been involved in substantiated abuse or neglect of children. (DHS child abuse/neglect clearance check); 3) Student Data Sheet; 4) Employment and Volunteer Contract.
6. CD 110W and CD 113W each require 30 hours of volunteer work at a licensed childcare program. CD 115PW requires 90 hours and CD 117W requires 150 hours of teaching in a licensed program other than your current employment site. CD 115PW and CD 117W must be unpaid and outside of your work schedule. More information will be given at the information sessions.
7. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
8. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Child Development Adv Cert**

Child Development Adv Cert

Total Program Cost (In District):	$5,350.60
On-Time Completion Rate:	95.00%
Program Job Placement Rate:	NA
Median Loan Dept:	$0.00

Child Development - Associate in Applied Arts

Program Code: AAA.25762

Child development teachers work in a variety of settings providing care and guidance of young children. This includes concern for the mental, social, physical, and emotional growth and development of the child. As a child development teacher, you should be able to work under supervision and work cooperatively with other personnel. Each employee should gain the respect, confidence, and cooperation of children, maintain discipline, and enforce as well as deal with emergency situations calmly. Physically, you must maintain good health and be able to stoop, kneel, crouch, and crawl. Good vision and hearing are necessary as well as being able to lift up to 40 pounds. Applicants for child development positions are required to pass medical and physical clearances and be free of communicable diseases. A DHS clearance for child abuse/neglect is required.

Students learn supportive skills needed for positions as assistant teachers or teachers in early childhood education and care programs. The Associate in Applied Arts degree program will also stress leadership skills that are needed in a director position. Graduates of this degree program will also be qualified to apply for positions as lead teachers and center directors as well as apply for a license for their own child care business.

The curriculum for this program is aligned with the standards issued by the National Association for the Education of Young Children.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course	
ENG ---	3	Any Approved College Composition II Course	
LW ---	1	Any 1 Credit LW Course (As of fall 2007) **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
POL ---	3/4	Any Approved American Government Requirement	
--- ---	8	Humanities Electives	
--- ---	8	Natural Science Electives including one lab course	
	27/28	**SUBTOTAL**	

Core Courses

Course	Credits	Course Title	Completed
CD 110W	4	Infant/Toddler Development	
CD 111W	3	Introduction to Early Childhood Education	
CD 112W	3	Learning Center Activities	
CD 113W	4	Child Guidance Strategies	
CD 115PW	3	Introductory Community Practicum	
CD 116W	3	Diversity and Families in Early Childhood Education	
CD 117W	6	Student Teaching Practicum	
CD 210W	3	Child Care Program Management	
ED 201W	3	Education of the Exceptional Child	
LWT 165	1	Community First Aid	
PSY 211W	4	General Psychology	
PSY 223W	3	Child Psychology	
	40	**SUBTOTAL**	
	67/68	**TOTAL CREDITS REQUIRED**	

1. CD 110W, CD 111W, CD 113W, CD 115 PW are Key courses and must be completed within 5 year of completing degree. Failure to complete within the stated time frame will require you to repeat this course. See graduation requirements page in catalog.
2. A grade of “C” (2.0) or higher is required in all core courses.
3. CD 111W and CD 115PW may be articulated if the student has earned a CDA credential (Center-based Preschool and Family Child Care CDAs), an elementary education degree or a high school career-technical certificate. CD 110W and CD 111W may be articulated if the student has earned a Center-based Infant Toddler CDA credential. Articulated credits will not count towards DHS requirements for a director using a CDA certificate. The 18 required credits for a child care director must be regular classes with a grade for credit.
4. A Child Development information session is held in November, April and August. CD 110W, CD 113W, CD 115PW, and CD 117W students must attend one of these sessions. Be sure you notify the Counseling Office to state your major as CD.
5. All CD 110W, 113W 115PW, and CD 117W students must complete the following and submit the appropriate documentation to the program coordinator: 1) TB Skin Test. You must submit evidence of freedom from communicable tuberculosis; 2) Acknowledgment and Release Form. You will be required to sign a document asking whether you have ever been convicted of an offense other than a minor traffic violation, and whether you have ever been involved in substantiated abuse or neglect of children. (DHS child abuse/neglect clearance check); 3) Student Data Sheet; 4) Employment

and Volunteer Contract.

6. CD 110W and CD 113W each require 30 hours of volunteer work at a licensed childcare program. CD 115PW requires 90 hours and CD 117W requires 150 hours of teaching in a licensed program other than your current employment site. CD 115PW and CD 117W must be unpaid and outside of your work schedule. More information will be given at the information sessions.
7. Current First Aid and CPR certification (LWT 165) is required to enroll in CD 210W.
8. CD 210W, Child Development Program Management must be taken after all other Child Development courses have been completed.
9. Humanities Electives are required in two different subject areas. Suggested Humanities Electives: COM 114, Interpersonal Communications and one chosen from LIT 251, Children's Literature or LIT 253, Books for Pre-School Children.
10. Natural Science electives credit in two different areas (including MTH 118 or higher except MTH 153) would be particularly useful for transferring to a 4-year school and is required in the fulfillment of the MACRAO agreement. Check with your transfer institution for optimum choices.
11. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
12. Delta College reserves the right to modify graduation requirements.
13. If you plan to pursue an advanced degree, see pages ADVANVED_DEGREE_PAGES for special transfer agreements.

Communication - Interpersonal - Certificate of Achievement

Program Code: CSZ.35325

The Communication Certificate will offer students the opportunity to develop their communication skills. The certificate offers two tracks; one that focuses on more interpersonal communication skills and one that emphasizes presentational and organizational skills. This certificate is an opportunity for professional development in key workplace communication skills for students of any age and level of experience.

Required Courses

Course	Credits	Course Title	Completed
COM 114W	3	Interpersonal Communication	
COM 214W	3	Small Group Communication	
COM 224W	3	Nonverbal Communication	
	9	**SUBTOTAL**	

Elective Options (must select one)

Course	Credits	Course Title	Completed
COM 202W	3	Oral Communication for Managers	
COM 212W	3	Listening	
COM 222	3	Introduction to Acting	
COM 235W	3	Principles of Persuasion	
COM 244W	3	Family Communication	
COM 245W	3	Intercultural Communication	
	3	**SUBTOTAL**	
	12	**TOTAL CREDITS**	

1. A grade of "C" or higher is required in all courses for the certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Communication - Presentational - Certificate of Achievement

Program Code: CSZ.35326

The Communication Certificate will offer students the opportunity to develop their communication skills. The certificate offers two tracks; one that focuses on more interpersonal communication skills and one that emphasizes presentational and organizational skills. This certificate is an opportunity for professional development in key workplace communication skills for students of any age and level of experience.

Required Courses

Course	Credits	Course Title	Completed
COM 112W	3	Fundamentals of Oral Communication	
COM 202W	3	Oral Communication for Managers	
COM 236W	3	Advanced Oral Communication	
	9	**SUBTOTAL**	

Elective Options (must select one)

Course	Credits	Course Title	Completed
COM 212W	3	Listening	
COM 214W	3	Small Group Communication	
COM 222	3	Introduction to Acting	
COM 224W	3	Nonverbal Communication	
COM 235W	3	Principles of Persuasion	
COM 244W	3	Family Communication	
COM 245W	3	Intercultural Communication	
	3	**SUBTOTAL**	
	12	**TOTAL CREDITS**	

1. A grade of "C" or higher is required in all courses for the certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Computer Aided Drafting - Advanced Certificate

Program Code: CTA.35865

As a computer drafter, you will make detailed manual or computer drawings of products and machinery from sketches and specifications conceived by engineers and designers. The finished drawings are used as working plans for engineering and manufacturing purposes. Depending on experience and level of responsibility, duties may vary from preparing basic drawings to modifying the finished design using computer aided design equipment.

In order to enter this area of work, you should be able to: work within precise limits or standards of accuracy, concentrate for long periods of time, visualize 3-dimensional objects from drawings or pictures, see detail in objects or drawings, and recognize slight differences in shapes and shadings. Computer skills are a requirement.

Required Courses

Course	Credits	Course Title	Completed
CAD 114	3	Introduction to CAD	
CAD 120	3	Introduction to CAM	
CAD 214	2	CAD Techniques	
CAD 226	3	3D Parametric Solid Modeling	
CNC 162	4	Computer Numerical Control Theory	
DRF 121	3	Blueprint Reading	
DRF 107	3	Intermediate Mechanical Design	
DRF 128	2	Geometric Tolerancing	
MIT 111W	3	Manufacturing Processes	
MS 113	2	Machining Processes	
MTH ---	4	Any Approved Intermediate Algebra Course	
		OR	
MT 110	(4)	Machine Tool Calculations	
	32	**TOTAL CREDITS**	

1. A grade of "C" (2.0) or higher is required in all courses for the certificate.
2. CAD 114, CAD 120, CAD 214 and CAD 226 are Key courses must be completed within 5 years of completing certificate or degree. Failure to complete within the stated time frame will require you to repeat this course. See graduation requirements page.
3. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
4. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Comptr Aided Drft Adv Cert**

Comptr Aided Drft Adv Cert

Total Program Cost (In District):	$4,775.40
On-Time Completion Rate:	NA
Program Job Placement Rate:	NA
Median Loan Dept:	NA

Computer Numerical Control - Advanced Certificate

Program Code: CTA.35864

As a CNC Machine Tool Programmer/Operator, you will use computer driven machine tools such as lathes, mills, lasers, water jet, wire and/or sinker electrical discharge machines, tube benders, punches, brakes, and grinders to shape materials to precise dimensions. Although some programmer/operators can work with a wide variety of CNC machine tools, most specialize in one or two types. Specific duties may include: studying blueprints or sketches; building tooling, jigs, or fixtures; programming and editing; machine work pieces; inspecting and certifying product for dimensional accuracy; and light duty repair and maintenance of the CNC machine. Many of the CNC courses listed below require prior basic machine tool work experience and/or high school or skill center classes in basic machine tools.

Program Requirements

Course	Credits	Course Title	Completed
MS 181W	4	Machine Tools I **OR**	
SKTR 181W	(4)	Machine Tools I	
MS 120	3	Machinery's Handbook **OR**	
SKTR 183	(3)	Machinery's Handbook	
MT 110	4	Machine Tool Calculations **OR**	
SKMA 103	(4)	Applied Geometry and Trigonometry	
DRF 128	2	Geometric Tolerancing **OR**	
SKDR 128	(2)	Geometric Tolerancing	
DRF 121	3	Blueprint Reading **OR**	
SKDR 101	(3)	Blueprint Reading	
CNC 162	4	Computer Numerical Control Theory **OR**	
SKCN 162	(4)	Computer Numerical Control Theory	
CAD 120	3	Introduction to CAM **OR**	
SKCA 120	(3)	Introduction to CAM	
MS 182	4	Machine Tools II **OR**	
SKTR 182	4	Machine Tools II	
CNC 216	4	CNC with Machining Applications **OR**	
SKCN 216	(4)	CNC with Machining Applications	
CNC 225	4	Mastercam **OR**	
SKCN 225	(4)	Mastercam	
CNC 285W	4	Computer Numerical Control Capstone Course **OR**	
SKCN 285W	(4)	Computer Numerical Control Capstone Course	

Continuing Education Elective

Course	Credits	Course Title	Completed
MS 230	4	Machine Tools III	

39/40 TOTAL CREDITS

1. A grade of "C" (2.0) or higher is required in all courses for the certificate.
2. CAD 120 (or SKCA 120) and CNC 225 (or SKCN 225 are Key courses and must be completed within 5 years of completing certificate. Failure to complete within the stated time frame will require you to repeat this course. See graduation requirements page in catalog.
3. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
4. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Computer Numerical Control Adv Cert**

Computer Numerical Control Adv Cert

Total Program Cost (In District):	$5,782.00
On-Time Completion Rate:	NA
Program Job Placement Rate:	100.00%
Median Loan Dept:	NA

Computer Science And Information Technology - BIT - Associate in Business Studies

Program Code: ABS.10130

A degree in Business and Information Technology includes both business skills and computer skills to prepare you for work in a high-tech business world.

All courses needed to complete the Associate in Business Studies degree in Computer Science and Information Technology-Business and Information Technology can be completed online except for where indicated.

Core Courses

Course	Credits	Course Title	Completed
ACC 211	4	Principles of Accounting I	
CST 103	1	Windows Foundations	
CST 104	1	Microsoft Word Foundations	
CST 110	1	Web Page Development Using HTML	
CST 115W	3	e-Commerce Concepts	
CST 123	1	Windows Operating System	
CST 133W	4	Computer Concepts & Competencies	
CST 134	3	Micro Computers in Business Using MS Office	
CST 135	1	Help Desk Fundamentals	
CST 147	2	Presentation Graphics Using PowerPoint	
CST 155	3	Microsoft EXCEL	
CST 171	2	Visual BASIC Programming I	
CST 204	2	Microsoft Word: Intermediate	
CST 235	3	Systems Analysis and Design	
CST 257	3	Database MS Access	
ENT 131W	3	Entrepreneurship/Small Business Management I	
MGT 110	3	Business Mathematics	
MGT 153W	3	Introduction to Business	
MGT 256	3	Human Resources Management I	
	46	**SUBTOTAL**	

Required Electives (Select 7 credits from list below)

Course	Credits	Course Title	Completed
MGT 143	3	Principles of Advertising	
MGT 245	3	Principles of Management	
ACC 212	4	Principles of Accounting II	
ACE ---	1-4	Academic Career Experience	
CST 105	1	Outlook	
ENT 231W	3	Entrepreneurship/Small Business Management II	
	7	**SUBTOTAL**	

General Education Courses

Course	Credits	Course Title	Completed
LW ---	1	Any 1 Credit LW Course (As of fall 2007) **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
OAT 151	3	Business Communication I **AND**	
OAT 152	3	Business Communication II	
		OR	

OAT 151	3	Business Communication I **AND**	_____
ENG 111	3	College Composition I **AND**	_____
ENG 112	3	College Composition II	_____
		OR	
OAT 151	3	Business Communication I **AND**	_____
ENG 111	3	College Composition I **AND**	_____
ENG 113	3	Technical Communication	_____
POL ---	3/4	Any Approved American Government Requirement	_____
PHL 203W	3	Business Ethics	_____
	14/18	**SUBTOTAL**	
	67/71	**Total Credits Required for Associate Degree**	

1. Proficiency in keyboarding is expected in all CST classes. OAT 170 is available for those students who need to build keyboarding skills.
2. Most of the courses to complete this degree are available online. For online offerings please talk with an academic advisor or check the course schedule.
3. Contact the Health & Wellness Division for information on completing the LWA credit through Individual Instruction to complete the BIT degree option online.
4. The above curricula are intended to prepare you for a career upon graduation from Delta College. If you are planning to transfer to a Baccalaureate degree program you should consult with a counselor before enrolling in computer, business, or general education courses so that specific transfer college requirements can be completed.
5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
6. Delta College reserves the right to modify graduation requirements.
7. If you plan to pursue an advanced degree, see pages ADVANVED_DEGREE_PAGES for special transfer agreements.

Computer Science And Information Technology - CA - Advanced Certificate

Program Code: CBA.35131

A specialist in Computer Applications has proficiency in a broad set of computer applications including word processing, spreadsheets, communications (Internet), database, and graphics.

Required Courses

Course	Credits	Course Title	Completed
CST 103	1	Windows Foundations	
CST 104	1	Microsoft Word Foundations	
CST 106	1	Internet Foundations	
CST 110	1	Web Page Development Using HTML	
CST 120	1	PC Operating System Command Line Interface (DOS)	
CST 123	1	Windows Operating System	
CST 133W	4	Computer Concepts & Competencies	
CST 135	1	Help Desk Fundamentals	
CST 147	2	Presentation Graphics Using PowerPoint	
CST 155	3	Microsoft EXCEL	
CST 170	1	Principles of Computer Programming I	
CST 171	2	Visual BASIC Programming I	
CST 204	2	Microsoft Word: Intermediate	
CST 257	3	Database MS Access	
MGT 110	3	Business Mathematics	
MGT 153W	3	Introduction to Business	

THIS CERTIFICATE IS PART OF A LADDERED PROGRAM. CREDITS EARNED MAY BE APPLIED TOWARDS COMPLETION OF A COMPUTER SCIENCE AND TECHNOLOGY -CA-ASSOCIATE IN BUSINESS STUDIES DEGREE.

30 TOTAL CREDITS

1. A grade of "C" or higher is required in all courses for the certificate.
2. CST 103, CST 123, CST 133W, CST 147, CST 155, CST 204 and CST 257 are Key courses and must be completed within 5 years of completing certificate. Failure to complete within the standard time frame will require you to repeat this course. See graduation requirements page in catalog.
3. Proficiency in keyboarding is expected in all CST classes. OAT 170 is available for those students who need to build keyboarding skills.
4. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
5. Delta College reserves the right to modify graduation requirements.
6. If you plan to pursue an advanced degree, see pages ADVANVED_DEGREE_PAGES for special transfer agreements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Computer Applications Adv Cert**

Computer Applications Adv Cert

Total Program Cost (In District):	$4,056.40
On-Time Completion Rate:	NA
Program Job Placement Rate:	NA
Median Loan Dept:	NA

Computer Science And Information Technology - CA - Associate in Business Studies

Program Code: ABS.10131

A specialist in Computer Applications has proficiency in a broad set of computer applications including word processing, spreadsheets, communications (Internet), database, and graphics.

All courses for the Associate in Business Studies Computer Science and Information Technology-Computer Applications can be completed online except where indicated.

General Education Courses:

Course	Credits	Course Title	Completed
COM 112W	3	Fundamentals of Oral Communication	
		OR	
COM 114W	(3)	Interpersonal Communication	
LW ---	1	Any 1 Credit LW Course (As of fall 2007) **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
OAT 151	3	Business Communication I **AND**	
OAT 152	3	Business Communication II	
		OR	
OAT 151	(3)	Business Communication I **AND**	
ENG 111	(3)	College Composition I **AND**	
ENG 112	(3)	College Composition II	
		OR	
OAT 151	(3)	Business Communication I **AND**	
ENG 111	(3)	College Composition I **AND**	
ENG 113	(3)	Technical Communication	
POL ---	3/4	Any Approved American Government Requirement	
PHL 210W	2	Information Technology Ethics & Law	
	16/20	**SUBTOTAL**	

Core Courses

Course	Credits	Course Title	Completed
ACC 111	4	Introductory Accounting	
		OR	
ACC 211	(4)	Principles of Accounting I	

CST 103	1	Windows Foundations	_____
CST 104	1	Microsoft Word Foundations	_____
CST 106	1	Internet Foundations	_____
CST 110	1	Web Page Development Using HTML	_____
CST 120	1	PC Operating System Command Line Interface (DOS)	_____
CST 123	1	Windows Operating System	_____
CST 133W	4	Computer Concepts & Competencies	_____
CST 135	1	Help Desk Fundamentals	_____
CST 147	2	Presentation Graphics Using PowerPoint	_____
CST 155	3	Microsoft EXCEL	_____
CST 160	3	Networking Essentials	_____
CST 170	1	Principles of Computer Programming I	_____
CST 171	2	Visual BASIC Programming I	_____
CST 204	2	Microsoft Word: Intermediate	_____
CST 216	3	Web Site Management	_____
CST 257	3	Database MS Access	_____
CST 273	2	MS Applications Using Visual BASIC	_____
MGT 110	3	Business Mathematics	_____
MGT 153W	3	Introduction to Business	_____
	42	**SUBTOTAL**	

Approved Electives - Choose 9 credits from the list below

Course	Credits	Course Title	Completed
ACC 212	4	Principles of Accounting II	_____
ACE ---	1-4	Academic Career Experience	_____
ART 171	2	Digital Media for the Web	_____
CST 105	1	Outlook	_____
CST 107	1	Microsoft Publisher	_____
CST 115W	3	e-Commerce Concepts	_____
CST 210	2	Advanced Web Page Development	_____
ENT 131W	3	Entrepreneurship/Small Business Management I	_____
ENT 231W	3	Entrepreneurship/Small Business Management II	_____
MGT 143	3	Principles of Advertising	_____
	9	**SUBTOTAL**	
	67/71	**TOTAL CREDITS**	

1. A grade of “C” or higher is required for all Core Courses and Approved Electives ART 171, CST 107, CST 115W, and CST 210.
2. CST 103, CST 107, CST 123, CST 133W, CST 147, CST 155, CST 204, CST 216 and CST 257 are Key courses and must be completed within 5 years of completing degree. Failure to complete within the stated time frame will require you to repeat this course. See graduation requirements page in catalog.
3. CST 216 requires a prerequisite of ART 171.
4. Proficiency in keyboarding is expected in all CST classes. OAT 170 is available for those students who need to build keyboarding skills.
5. Courses not currently available online: ACC 111, ART 171, COM 112W, CST 105, CST 146, CST 170, CST 273,OAT 152, PHL 210W, any 2 credit LW course and the ACE elective. They cannot be used to complete the CA Associate Degree online.
6. Contact the Health & Wellness Division for information on completing the LWA credit through Individual Instruction to complete the CA degree option online.
7. The above curricula are intended to prepare you for a career upon graduation from Delta College. If you are planning to transfer to a Baccalaureate degree program you should consult with a counselor before enrolling in computer, business, or general education courses so that specific transfer college requirements can be completed.
8. File an application for an associate or dual degree and/or certificate with the Registrar’s Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
9. Delta College reserves the right to modify graduation requirements.

Computer Science And Information Technology - IST/Criminal Technology - Associate in Applied Science

Program Code: AAS.17165

This program is designed to prepare you for challenging positions in the rapidly growing field of Information Security and Technology. Criminal Technology covers the legal side of securing information as well as the technological side, by combining Criminal Justice classes with CST networking classes.

General Education Requirements

Course	Credits	Course Title	Completed
COM 112W	3	Fundamentals of Oral Communication	
		OR	
COM 114W	(3)	Interpersonal Communication	
LW ---	1	Any 1 Credit LW Course (As of fall 2007) **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
MTH---	3/4	Any Approved Intermediated Algebra Course or Higher	
OAT 151	3	Business Communication I **AND**	
OAT 152	3	Business Communication II	
		OR	
ENG ---	(3)	Any Approved College Composition I Course **AND**	
ENG ---	(3)	Any Approved College Composition II Course	
		OR	
ENG ---	(3)	Any Approved College Composition I Course **AND**	
ENG 113	(3)	Technical Communication	
PHL 210W	2	Information Technology Ethics & Law	
POL ---	3/4	Any Approved American Government Requirement	
PSY 211W	4	General Psychology	
	23/25	**SUBTOTAL**	

Required Courses

Course	Credits	Course Title	Completed
CJ 110W	3	Introduction to Criminal Justice	
CJ 182W	3	Introduction to Security	
CJ 210W	3	Introduction to Criminal Investigation	
CJ 211W	3	Private Security and Investigative Methods	
CJ 215W	3	Introduction to Homeland Security	
CJ 220W	3	Crime Laboratory Techniques	
CST 120	1	PC Operating System Command Line Interface (DOS)	
CST 126	2	Unix/Linux Operating System	
CST 128	4	PC Hardware Concepts and Troubleshooting	
CST 133W	4	Computer Concepts & Competencies	
CST 161	3	Networking Fundamentals	
CST 228	4	Advanced PC Troubleshooting (A+)	
CST 260	3	Routing Protocols and Concepts	
CST 266	4	Information Security	
CST 267	3	Introduction to Computer Forensics	
	46	**SUBTOTAL**	

Group I Electives (Choose one course from list)

Course	Credits	Course Title	Completed
CST 159	2	Introduction to Oracle Database Management	
CST 162	2	Introduction to Novell Network Administration	
CST 163	2	Introduction to Windows Network Administration	
CST 164	3	LAN Switching and Wireless	
CST 165	3	Linux Networking I	
	2/3	**SUBTOTAL**	

Group II Electives (Choose one course from list)

Course	Credits	Course Title	Completed
CST 259	3	Advanced Oracle Database Management	
CST 262	3	Advanced Novell Networking	
CST 263	3	Advanced Microsoft Networking	
CST 264	3	Accessing the WAN	
CST 265	3	Linux Networking II	
CST 269	3	Cisco Security	
	3	**SUBTOTAL**	
	74/77	**TOTAL CREDITS**	

1. A grade of "C" (2.0) or higher is required in OAT 151 and OAT 152, (or ENG Comp I and II/113) and ALL Required Core and Elective Courses for the degree.
2. CST 126, CST 128, CST 133W, CST 161, CST 228, CST 260, CST 266, CST 267, and ALL Elective courses are Key courses. Key courses must be completed within 5 years of completing degree. Failure to complete within the stated time frame will require you to repeat this course.
3. MTH 119 or any higher level Math course (with the exception of MTH 153) will meet the Math General Education requirement.
4. Proficiency in keyboarding is expected in all CST classes. OAT 170 is available for those students who need to build keyboarding skills.
5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
6. Delta College reserves the right to modify graduation requirements.
7. If you plan to pursue an advanced degree, see pages ADVANVED_DEGREE_PAGES for special transfer agreements.

Computer Science And Information Technology - IST/Criminal Technology - Post Associate Certificate

Program Code: CTP.35165

Criminal Technology covers the legal side of securing information as well as the technological side, by combining Criminal Justice classes with CST networking classes.

Required Courses

Course	Credits	Course Title	Completed
CJ 187W	3	Current Issues in Security	
CJ 270W	3	Evidence and Criminal Procedure	
CJ 271W	3	Criminal Law	
CST 235	3	Systems Analysis and Design	
MTH 120	3	Finite Mathematics	

15 TOTAL CREDITS

1. A grade of “C” (2.0) or higher is required in all courses for the certificate.
2. Proficiency in keyboarding is expected in all CST classes. OAT 170 is available for those students who need to build keyboarding skills.
3. File an application for an associate or dual degree and/or certificate with the Registrar’s Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
4. Delta College reserves the right to modify graduation requirements.
5. If you plan to pursue an advanced degree, see pages ADVANVED_DEGREE_PAGES for special transfer agreements.

Computer Science And Information Technology - IST/Financial Security - Associate in Applied Science

Program Code: AAS.17170

This program is designed to prepare you for challenging positions in the rapidly growing field of Information Security and Technology. Financial Security provides the skills and knowledge to assess, protect, and recover financial information in financial systems.

General Education Requirements

Course	Credits	Course Title	Completed
COM 112W	3	Fundamentals of Oral Communication	
		OR	
COM 114W	(3)	Interpersonal Communication	
LW ---	1	Any 1 Credit LW Course (As of fall 2007) **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
MTH---	3/4	Any Approved Intermediated Algebra Course or Higher	
OAT 151	3	Business Communication I **AND**	
OAT 152	3	Business Communication II	
		OR	
ENG ---	(3)	Any Approved College Composition I Course **AND**	
ENG ---	(3)	Any Approved College Composition II Course	
		OR	
ENG ---	(3)	Any Approved College Composition I Course **AND**	
ENG 113	(3)	Technical Communication	
PHL 210W	2	Information Technology Ethics & Law	
POL ---	3/4	Any Approved American Government Requirement	
PSY 211W	4	General Psychology	
	23/25	**SUBTOTAL**	

Core Courses

Course	Credits	Course Title	Completed
ACC 211	4	Principles of Accounting I	
ACC 212	4	Principles of Accounting II	
ACC 227W	4	Intermediate Accounting I	
ACC 228W	4	Intermediate Accounting II	
ACC 233	3	Cost Accounting	
ACC 235	3	Financial Management	
CJ 110W	3	Introduction to Criminal Justice	
CST 120	1	PC Operating System Command Line Interface (DOS)	
CST 133W	4	Computer Concepts & Competencies	
CST 155	3	Microsoft EXCEL	
CST 161	3	Networking Fundamentals	
CST 235	3	Systems Analysis and Design	
CST 257	3	Database MS Access	
CST 260	3	Routing Protocols and Concepts	
CST 266	4	Information Security	
MGT 153W	3	Introduction to Business	
MGT 251W	3	Business Law I	
	55	**SUBTOTAL**	

78/80 TOTAL CREDITS

1. A grade of "C" (2.0) or higher is required in OAT 151 and OAT 152, (or ENG Comp I and II/113) and ALL Required Core Courses (except CJ 110, MGT 153 and MGT 251) for the degree.
2. ACC 227, ACC 228, CST 133, CST 155, CST 161 CST 235, CST 257, CST 260, CST 266 are Key courses. Key courses must be completed within 5 years of completing degree. Failure to complete within the stated time frame will require you to repeat this course.
3. MTH 119 or any higher level Math course (with the exception of MTH 153) will meet the Math General Education requirement.
4. Proficiency in keyboarding is expected in all CST classes. OAT 170 is available for those students who need to build keyboarding skills.
5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
6. Delta College reserves the right to modify graduation requirements.
7. If you plan to pursue an advanced degree, see pages ADVANVED_DEGREE_PAGES for special transfer agreements.

Computer Science And Information Technology - IST/Financial Security - Post Associate Certificate

Program Code: CTP.35170

Financial Security provides the skills and knowledge to assess, protect, and recover financial information in financial systems.

Required Courses

Course	Credits	Course Title	Completed
ACC 214	4	Microcomputer Accounting Applications	
ACC 215W	3	Federal Tax Accounting	
CST 128	4	PC Hardware Concepts and Troubleshooting	
CST 267	3	Introduction to Computer Forensics	
MGT 245	3	Principles of Management	
MTH 208W	3	Elementary Statistics	

20 TOTAL CREDITS

1. A grade of "C" (2.0) or higher is required in all courses for the certificate.
2. ACC 214, CST 128, and CST 267 are Key courses and must be completed within 5 years of completing certificate. Failure to complete within the stated time frame will require you to repeat this course.
3. Proficiency in keyboarding is expected in all CST classes. OAT 170 is available for those students who need to build keyboarding skills.
4. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
5. Delta College reserves the right to modify graduation requirements.
6. If you plan to pursue an advanced degree, see pages ADVANVED_DEGREE_PAGES for special transfer agreements.

Computer Science And Information Technology - IST/Information Assurance - Associate in Applied Science

Program Code: AAS.17172

The program is designed to prepare you for challenging positions in the rapidly growing field of Information Security and Technology. Information Assurance provides the skills and knowledge to protect, and if necessary, recover information from an information system.

General Education Requirements

Course	Credits	Course Title	Completed
COM 112W	3	Fundamentals of Oral Communication	
		OR	
COM 114W	(3)	Interpersonal Communication	
LW ---	1	Any 1 Credit LW Course (As of fall 2007) **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
MTH---	3/4	Any Approved Intermediated Algebra Course or Higher	
OAT 151	3	Business Communication I **AND**	
OAT 152	3	Business Communication II	
		OR	
ENG ---	(3)	Any Approved College Composition I Course **AND**	
ENG ---	(3)	Any Approved College Composition II Course	
		OR	
ENG ---	(3)	Any Approved College Composition I Course **AND**	
ENG 113	(3)	Technical Communication	
PHL 210W	2	Information Technology Ethics & Law	
POL ---	3/4	Any Approved American Government Requirement	
PSY 211W	4	General Psychology	
	23/25	**SUBTOTAL**	

Core Courses

Course	Credits	Course Title	Completed
CST 120	1	PC Operating System Command Line Interface (DOS)	
CST 126	2	Unix/Linux Operating System	
CST 128	4	PC Hardware Concepts and Troubleshooting	
CST 133W	4	Computer Concepts & Competencies	
CST 150W	3	Information Security Policies, Procedures, and Fundamentals	
CST 152	3	Implementing Network Security	
CST 153	3	Implementing Firewalls	
CST 154W	3	Incident Response and Disaster Recovery	
CST 156	3	Implementing Wireless Security	
CST 158	3	Network Intrusion Security Testing	
CST 161	3	Networking Fundamentals	
CST 260	3	Routing Protocols and Concepts	
CST 164	3	LAN Switching and Wireless	
CST 264	3	Accessing the WAN	
CST 266	4	Information Security	
	45	**SUBTOTAL**	

Group I Electives (Choose 2 or 3 courses from list)

Course	Credits	Course Title	Completed
CST 159	2	Introduction to Oracle Database Management	
CST 162	2	Introduction to Novell Network Administration	
CST 163	2	Introduction to Windows Network Administration	
CST 165	3	Linux Networking I	
	5/7	**SUBTOTAL**	

Group II Electives (Choose one course from list)

Course	Credits	Course Title	Completed
CST 259	3	Advanced Oracle Database Management	
CST 262	3	Advanced Novell Networking	
CST 263	3	Advanced Microsoft Networking	
CST 265	3	Linux Networking II	
CST 267	3	Introduction to Computer Forensics	
CST 269	3	Cisco Security	
	3	**SUBTOTAL**	
	76/80	**TOTAL CREDITS**	

1. A grade of "C" (2.0) or higher is required in OAT 151 and OAT 152, (or ENG Comp I and II/113) and ALL CST Required Core and Elective Courses for the degree.
2. CST 133, CST 153, CST 156, CST 161, CST 164, CST 260, CST 264, CST 266, and ALL Elective courses are Key Courses: Key courses must be completed within 5 years of completing degree. Failure to complete within the stated time frame will require you to repeat this course.
3. MTH 119 or any higher level Math course (with the exception of MTH 153) will meet the Math General Education requirement.
4. Proficiency in keyboarding is expected in all CST classes. OAT 170 is available for those students who need to build keyboarding skills.
5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
6. Delta College reserves the right to modify graduation requirements.
7. If you plan to pursue an advanced degree, see pages ADVANVED_DEGREE_PAGES for special transfer agreements.

Computer Science And Information Technology - NT - Advanced Certificate

Program Code: CTA.35135

A degree in Network Technology provides you with the skills for configuring and managing a system of interconnected computers that communicate with one another and share applications, data, and hardware components.

Core Courses

Course	Credits	Course Title	Completed
CST 120	1	PC Operating System Command Line Interface (DOS)	
CST 123	1	Windows Operating System	
CST 126	2	Unix/Linux Operating System	
CST 128	4	PC Hardware Concepts and Troubleshooting	
CST 133W	4	Computer Concepts & Competencies	
CST 160	3	Networking Essentials	
CST 170	1	Principles of Computer Programming I	
CST 260	3	Routing Protocols and Concepts	
	19	**SUBTOTAL**	

Database Management/Networking Electives (Choose three or four courses from the list)

Course	Credits	Course Title	Completed
CST 150W	3	Information Security Policies, Procedures, and Fundamentals	
CST 159	2	Introduction to Oracle Database Management	
CST 161	3	Cisco Network Fundamentals	
CST 162	2	Introduction to Novell Network Administration	
CST 163	2	Introduction to Windows Network Administration	
CST 164	3	LAN Switching and Wireless	
CST 165	3	Linux Networking I	
	8/9	**SUBTOTAL**	

Advanced Database Management/Networking Electives (Choose one course from list)

Course	Credits	Course Title	Completed
CST 152	3	Implementing Network Security	
CST 153	3	Implementing Firewalls	
CST 259	3	Advanced Oracle Database Management	
CST 262	3	Advanced Novell Networking	
CST 263	3	Advanced Microsoft Networking	
CST 264	3	Accessing the WAN	
CST 265	3	Linux Networking II	
CST 269	3	Cisco Security	
	3	**SUBTOTAL**	

Other CST/BIT Electives (Choose one course from the list)

Course	Credits	Course Title	Completed
CST 129	2	Mac OS Troubleshooting	
CST 147	2	Presentation Graphics Using PowerPoint	
CST 155	3	Microsoft EXCEL	
CST 228	4	Advanced PC Troubleshooting (A+)	
CST 257	3	Database MS Access	
MGT 153W	3	Introduction to Business	
MGT 245	3	Principles of Management	
	2/4	**SUBTOTAL**	

THIS CERTIFICATE IS PART OF A LADDERED PROGRAM. CREDITS EARNED MAY BE APPLIED TOWARDS COMPLETION OF A COMPUTER

32/35 TOTAL CREDITS

1. A grade of "C" (2.0) or higher is required in all courses for the certificate.
2. CST 133, CST 161, CST 260 and ALL Elective courses are Key courses and must be completed within 5 years of completing certificate. Failure to complete within the stated time frame will require you to repeat this course. See graduation requirements page in catalog.
3. Proficiency in keyboarding is expected in all CST classes. OAT 170 is available for those students who need to build keyboarding skills.
4. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
5. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Network Technology Adv Cert**

Network Technology Adv Cert

Total Program Cost (In District):	$4,344.00
On-Time Completion Rate:	90.00%
Program Job Placement Rate:	NA
Median Loan Dept:	$0.00

Computer Science And Information Technology - NT - Associate in Applied Science

Program Code: AAS.17135

A degree in Network Technology provides you with the skills for configuring and managing a system of interconnected computers that communicate with one another and share applications, data, and hardware components.

General Education Courses

Course	Credits	Course Title	Completed
COM 112W	3	Fundamentals of Oral Communication	
		OR	
COM 114W	(3)	Interpersonal Communication	
ENG 111	3	Any College Composition I **AND**	
ENG 112	3	Any College Composition II	
		OR	
ENG 111	(3)	Any College Composition I **AND**	
ENG 113	(3)	Technical Communication	
		OR	
OAT 151	(3)	Business Communication I **AND**	
OAT 152	(3)	Business Communication II	
LW ---	1	Any 1 Credit LW Course (As of fall 2007) **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
MTH---	3/4	Any Approved Intermediate Algebra Course or Higher	
PHL 210W	2	Information Technology Ethics & Law	
POL ---	3/4	Any Approved American Government Requirement	
	19/21	**SUBTOTAL**	

Core Courses

Course	Credits	Course Title	Completed
ACC 211	4	Principles of Accounting I	
CST 120	1	PC Operating System Command Line Interface (DOS)	
CST 123	1	Windows Operating System	
CST 126	2	Unix/Linux Operating System	
CST 128	4	PC Hardware Concepts and Troubleshooting	
CST 133W	4	Computer Concepts & Competencies	
CST 160	3	Networking Essentials	
CST 170	1	Principles of Computer Programming I	
CST 235	3	Systems Analysis and Design	
CST 260	3	Routing Protocols and Concepts	
CST 266	4	Information Security	
CST 270	3	Special Topics in Network Administration	
	33	**SUBTOTAL**	

Database Management/Networking Electives (Choose three or four courses from list)

Course	Credits	Course Title	Completed
CST 150W	3	Information Security Policies, Procedures, and Fundamentals	
CST 161	3	Cisco Network Fundamentals	
CST 162	2	Introduction to Novell Network Administration	
CST 163	2	Introduction to Windows Network Administration	
CST 164	3	LAN Switching and Wireless	
CST 165	3	Linux Networking I	
	8/9	**SUBTOTAL**	

Advanced Database Management/Networking Electives (Choose two courses from list)

Course	Credits	Course Title	Completed
CST 152	3	Implementing Network Security	
CST 153	3	Implementing Firewalls	
CST 259	3	Advanced Oracle Database Management	
CST 262	3	Advanced Novell Networking	
CST 263	3	Advanced Microsoft Networking	
CST 264	3	Accessing the WAN	
CST 265	3	Linux Networking II	
CST 269	3	Cisco Security	
	6	**SUBTOTAL**	

Other CST/BIT Electives (Choose one course from list)

Course	Credits	Course Title	Completed
CST 129	2	Mac OS Troubleshooting	
CST 147	2	Presentation Graphics Using PowerPoint	
CST 155	3	Microsoft EXCEL	
CST 228	4	Advanced PC Troubleshooting (A+)	
CST 257	3	Database MS Access	
MGT 153W	3	Introduction to Business	
MGT 245	3	Principles of Management	
	2/4	**SUBTOTAL**	
	68/73	**TOTAL CREDITS**	

1. A grade of "C" (2.0) or higher is required in all CST courses.
2. CST 133, CST 161, CST 260, CST 266 and ALL Electives are Key courses and must be completed within 5 years of completing program. Failure to complete within the stated time frame will require you to repeat the course. See graduation requirements page in catalog.
3. MTH 119 or any higher level Math course (except MTH 153) will meet the Math General Education requirement.
4. Proficiency in keyboarding is expected in all CST classes. OAT 170 is available for those students who need to build keyboarding skills.
5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
6. Delta College reserves the right to modify graduation requirements.

Computer Science And Information Technology - PC - Advanced Certificate

Program Code: CTA.35136

As a graduate of the PC Systems Support & Technology program, you will be involved with the planning, installation, maintenance, and repair of computer hardware and software.

Core Courses

Course	Credits	Course Title	Completed
CST 120	1	PC Operating System Command Line Interface (DOS)	_____
CST 123	1	Windows Operating System	_____
CST 126	2	Unix/Linux Operating System	_____
CST 128	4	PC Hardware Concepts and Troubleshooting	_____
CST 129	2	Mac OS Troubleshooting	_____
CST 133W	4	Computer Concepts & Competencies	_____
CST 135	1	Help Desk Fundamentals	_____
CST 161	3	Networking Fundamentals	_____
CST 163	2	Introduction to Windows Network Administration	_____
CST 228	4	Advanced PC Troubleshooting (A+)	_____
CST 268W	2	Special Topics in PC Support	_____

THIS CERTIFICATE IS PART OF A LADDERED PROGRAM. CREDITS EARNED MAY BE APPLIED TOWARDS COMPLETION OF THE COMPUTER SCIENCE AND INFORMATION TECHNOLOGY - PC - ASSOCIATE IN APPLIED SCIENCE DEGREE.

26 TOTAL CREDITS

1. A grade of "C" (2.0) or higher is required in all courses for the certificate.
2. CST 128, CST 129, CST 133, CST 161, CST 228, and CST 268 are Key courses and must be completed within 5 years of completing certificate. Failure to complete within the stated time frame will require you to repeat this course. See graduation requirements page in catalog.
3. Proficiency in keyboarding is expected in all CST classes. OAT 170 is available for those students who need to build keyboarding skills.
4. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
5. Delta College reserves the right to modify graduation requirements.
6. If you plan to pursue an advanced degree, see pages ADVANVED_DEGREE_PAGES for special transfer agreements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **PC Systems Support & Tech Adv Cert**

PC Systems Support & Tech Adv Cert

Total Program Cost (In District):	$3,768.80
On-Time Completion Rate:	83.30%
Program Job Placement Rate:	0.00%
Median Loan Dept:	$0.00

Computer Science And Information Technology - PC - Associate in Applied Science

Program Code: AAS.17136

As a graduate of the PC Systems Support & Technology program, you will be involved with the planning, installation, maintenance, and repair of computer hardware and software.

General Education Courses

Course	Credits	Course Title	Completed
COM 112W	3	Fundamentals of Oral Communication	
		OR	
COM 114W	(3)	Interpersonal Communication	
LW ---	1	Any 1 Credit LW Course (As of fall 2007) **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
OAT 151	3	Business Communication I **AND**	
OAT 152	3	Business Communication II	
		OR	
ENG ---	(3)	Any Approved College Composition I Course **AND**	
ENG ---	(3)	Any Approved College Composition II Course	
		OR	
ENG ---	(3)	Any Approved College Composition I Course **AND**	
ENG 113	(3)	Technical Communication	
MTH---	3/4	Any Approved Intermediate Algebra Course (or Higher)	
PHL 210W	2	Information Technology Ethics & Law	
POL ---	3/4	Any Approved American Government Requirement	
	19/21	**SUBTOTAL**	

Core Courses

Course	Credits	Course Title	Completed
ACC 211	4	Principles of Accounting I	
CST 120	1	PC Operating System Command Line Interface (DOS)	
CST 123	1	Windows Operating System	
CST 126	2	Unix/Linux Operating System	
CST 128	4	PC Hardware Concepts and Troubleshooting	
CST 129	2	Mac OS Troubleshooting	
CST 133W	4	Computer Concepts & Competencies	
CST 135	1	Help Desk Fundamentals	
CST 160	3	Networking Essentials	
CST 163	2	Introduction to Windows Network Administration	
CST 170	1	Principles of Computer Programming I	
CST 228	4	Advanced PC Troubleshooting (A+)	
CST 235	3	Systems Analysis and Design	
CST 266	4	Information Security	
CST 268W	2	Special Topics in PC Support	
	38	**SUBTOTAL**	

CST Network/Programming Electives (Choose two to four courses from list)

Course	Credits	Course Title	Completed
CST 150W	3	Information Security Policies, Procedures, and Fundamentals	
CST 159	2	Introduction to Oracle Database Management	
CST 161	3	Networking Fundamentals	
CST 162	2	Introduction to Novell Network Administration	
CST 164	3	LAN Switching and Wireless	
CST 165	3	Linux Networking I	
CST 177	1	Principles of Computer Programming II	
CST 260	3	Routing Protocols and Concepts	
CST 262	3	Advanced Novell Networking	
CST 263	3	Advanced Microsoft Networking	
CST 265	3	Linux Networking II	
CST 267	3	Introduction to Computer Forensics	
	7	**SUBTOTAL**	

Related Electives (Choose one or two courses from list)

Course	Credits	Course Title	Completed
ACC 212	4	Principles of Accounting II	
ACC 235	3	Financial Management	
ACE ---	1-4	Academic Career Experience	
CST 183	3	Java Programming	
ENT 131W	3	Entrepreneurship/Small Business Management I	
MGT 153W	3	Introduction to Business	
MGT 243	3	Principles of Marketing	
MGT 245	3	Principles of Management	
	4/6	**SUBTOTAL**	
	68/72	**TOTAL CREDITS**	

1. A grade of "C" (2.0) or higher is required in all CST courses.
2. CST 123, CST 128, CST 129, CST 133, CST 161, CST 163, CST 183, CST 228, CST 268, and ALL CST Network/Programming Electives are Key courses and must be completed within 5 years of completing degree. Failure to complete within the stated time frame will require you to repeat this course. See graduation requirements page in catalog.
3. Any Approved Intermediate Algebra or higher except MTH 153 will meet the Math General Education requirement.
4. Proficiency in keyboarding is expected in all CST classes. OAT 170 is available for those students who need to build keyboarding skills.
5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
6. Delta College reserves the right to modify graduation requirements.

Computer Science And Information Technology - Prog - Associate in Applied Science

Program Code: AAS.17137

A Programming degree prepares you for designing and building computer software using a variety of programming languages.

Required Core Courses

Course	Credits	Course Title	Completed
ACC 211	4	Principles of Accounting I	
CST 103	1	Windows Foundations	
CST 110	1	Web Page Development Using HTML	
CST 126	2	Unix/Linux Operating System	
CST 133W	4	Computer Concepts & Competencies	
CST 155	3	Microsoft EXCEL	
CST 170	1	Principles of Computer Programming I	
CST 171	2	Visual BASIC Programming I	
CST 177	1	Principles of Computer Programming II	
CST 180	4	C++ Programming	
CST 183	3	Java Programming	
CST 186	2	Introduction to Game Programming	
CST 235	3	Systems Analysis and Design	
CST 257	3	Database MS Access	
CST 258	1	Introduction to Structured Query Language	
CST 271	3	Visual Basic Programming II	
CST 273	2	MS Applications Using Visual BASIC	
CST 280	4	Advanced C++Programming	
	44	**SUBTOTAL**	

General Education Courses

Course	Credits	Course Title	Completed
COM 112W	3	Fundamentals of Oral Communication **OR**	
COM 114W	(3)	Interpersonal Communication	
ENG ---	3	Any Approved College Composition I Course **AND**	
ENG ---	3	Any Approved College Composition II Course	
		OR	
ENG ---	(3)	Any Approved College Composition I Course **AND**	
ENG 113	(3)	Technical Communication (Recommended)	
		OR	
OAT 151	(3)	Business Communication I **AND**	
OAT 152	(3)	Business Communication II	
LW ---	1	Any 1 Credit LW Course (As of fall 2007) **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
MTH---	3/4	Any Approved Intermediate Algebra Course or Higher	
PHL 210W	2	Information Technology Ethics & Law	
POL ---	3/4	Any Approved American Government Requirement	
	19/21	**SUBTOTAL**	
	63/65	**TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE**	

1. A grade of “C” (2.0) or higher is required in the MTH course, and all CST courses, to earn the degree.

2. CST 133, CST 155, CST 180, CST 183, CST 271, CST 273, and CST 280, are Key Courses. Key courses must be completed within 5 years of completing degree. Failure to complete within the stated time frame will require you to repeat this course.
3. Proficiency in keyboarding is expected in all CST classes. OAT 170 is available for those students who need to build keyboarding skills.
4. The above curricula are intended to prepare you for a career upon graduation from Delta College. If you are planning to transfer to a Baccalaureate degree program you should consult with a counselor before enrolling in computer, business, or general education courses so that specific transfer college requirements can be completed.
5. MTH 119 or any higher level Math course (with the exception of MTH 153) will meet the MTH--- course requirement.
6. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
7. Delta College reserves the right to modify graduation requirements.
8. If you plan to pursue an advanced degree, see pages ADVANVED_DEGREE_PAGES for special transfer agreements.

Computer Science And Information Technology - Web - Advanced Certificate

Program Code: CTA.35138

A Web Information Technology Degree is focused on creating, maintaining, and managing web pages and web sites on the Internet.

Core Courses

Course	Credits	Course Title	Completed
ART 115	3	Design I	
ART 171	2	Digital Media for the Web	
ART 285	3	Digital Animation and Interactive Design	
CST 110	1	Web Page Development Using HTML	
CST 115W	3	e-Commerce Concepts	
CST 126	2	Unix/Linux Operating System	
CST 133W	4	Computer Concepts & Competencies	
CST 170	1	Principles of Computer Programming I	
CST 210	2	Advanced Web Page Development	
CST 214	2	JavaScript Programming	
CST 216	3	Web Site Management	

26 TOTAL CREDITS

1. A grade of "C" (2.0) or higher is required in all courses for the certificate.
2. CST 133, CST 210, CST 214, CST 216 are Key courses and must be completed within 5 years of completing certificate or degree. Failure to complete within the stated time frame will require you to repeat this course. See graduation requirements page in catalog.
3. Proficiency in keyboarding is expected in all CST classes. OAT 170 is available for those students who need to build keyboarding skills.
4. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
5. Delta College reserves the right to modify graduation requirements.
6. If you plan to pursue an advanced degree, see pages ADVANVED_DEGREE_PAGES for special transfer agreements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Web Information Technology**

Web Information Technology

Total Program Cost (In District):	$3,768.80
On-Time Completion Rate:	NA
Program Job Placement Rate:	NA
Median Loan Dept:	NA

Computer Science And Information Technology - Web - Associate in Applied Science

Program Code: AAS.17138

A Web Information Technology Degree is focused on creating, maintaining, and managing web pages and web sites on the Internet.

Core Courses

Course	Credits	Course Title	Completed
ART 115	3	Design I	
ART 201	3	Introduction to Graphic Design	
ART 241	3	Graphics Studio 1	
ART 284	3	Typography	
ART 285	3	Digital Animation and Interactive Design	
CST 110	1	Web Page Development Using HTML	
CST 115W	3	e-Commerce Concepts	
CST 126	2	Unix/Linux Operating System	
CST 133W	4	Computer Concepts & Competencies	
CST 170	1	Principles of Computer Programming I	
CST 171	2	Visual BASIC Programming I	
CST 210	2	Advanced Web Page Development	
CST 214	2	JavaScript Programming	
CST 216	3	Web Site Management	
CST 217	3	Web Server Programming	
CST 219W	2	Web Site Deployment	
CST 257	3	Database MS Access	
CST 258	1	Introduction to Structured Query Language	
	44	**SUBTOTAL**	

General Education Courses

Course	Credits	Course Title	Completed
COM 112W	3	Fundamentals of Oral Communication	
		OR	
COM 114W	(3)	Interpersonal Communication	
ENG 111	3	Any College Composition I **AND**	
ENG 112	3	Any College Composition II **OR**	
ENG 113	(3)	Technical Communication (Recommended)	
		OR	
OAT 151	(3)	Business Communication I **AND**	
OAT 152	(3)	Business Communication II	
LW ---	1	Any 1 Credit LW Course (As of fall 2007)	
		AND	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
MTH ---	3/4	Any Approved Intermediate Algebra Course or Higher	
PHL 210W	2	Information Technology Ethics & Law	
POL ---	3/4	Any Approved American Government Requirement	
	19/21	**SUBTOTAL**	
	63/65	**TOTAL CREDITS**	

1. A grade of "C" (2.0) or higher is required in all Core courses and the Math General Education requirement.
2. CST 133, CST 210, CST 214, CST 216, CST 217, CST 219, CST 257, and CST 258 are Key courses and must be completed within 5 years of completing certificate or degree. Failure to complete within the stated time frame will require you to repeat this course. See graduation requirements page in catalog.
3. MTH 119 or any higher level Math course (with the exception of MTH 153) will meet the Math General Education requirement.

4. Proficiency in keyboarding is expected in all CST classes. OAT 170 is available for those students who need to build keyboarding skills.
5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
6. Delta College reserves the right to modify graduation requirements.
7. If you plan to pursue an advanced degree, see pages ADVANVED_DEGREE_PAGES for special transfer agreements.

Construction Management - Associate in Applied Science

Program Code: AAS.15875

The Construction Management program is designed to acquaint you with management/business operations and knowledge of the practices and procedures relating to the construction industry. The construction course will acquaint you with various materials, procedures, types of fabrication, and methods of resolution. Technical problem solving will be stressed.

The business components of this program will teach you basic business structure and practices. Such training is invaluable in the start-up and maintenance of a profitable construction business. Other avenues of employment can be sought in construction supervision, material representation, and material management and control.

General Education Courses

Course	Credits	Course Title	Completed
COM 202W	3	Oral Communication for Managers	
LW 220W	1	Lifelong Wellness **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
		OR	
LW 223W	(2)	Wellness in Technical Trades	
OAT 151	3	Business Communication I	
OAT 152	3	Business Communication II	
POL ---	3/4	Any Approved American Government Requirement	
MTH ---	4	Any Approved Intermediate Algebra Course or Higher	
	14/15	**SUBTOTAL**	

Core Program Requirements

Course	Credits	Course Title	Completed
ARC 101	3	Materials and Methods of Construction	
ARC 111	3	Mechanical and Electrical Systems for Buildings	
ARC 204	3	Estimating Building Construction	
ARC 211	2	Elements of Structural Design	
ARC 221	3	Site Preparation	
RC 101	3	Construction Print Interpretation	
TTI 110	2	Sustainable Building Principles	
	19	**SUBTOTAL**	

Successful completion of the Core Program courses prepare the student for completing the Architectural Technology Associate Degree, The Construction Management Associate Degree, or the Residential Construction Degree. Please refer to the catalog page for the relevant Program Requirement Courses.

Construction Management Program Requirements

Course	Credits	Course Title	Completed
ACC 111	4	Introductory Accounting	
		OR	
ACC 211	(4)	Principles of Accounting I	
		OR	
ENT 101	(3)	Accounting for Entrepreneurs	
CST 134	3	Micro Computers in Business Using MS Office	
		OR	
CST 133W	(4)	Computer Concepts & Competencies	
ENT 131W	3	Entrepreneurship/Small Business Management I	
MGT 153W	3	Introduction to Business	
MGT 245	3	Principles of Management	
MGT 251W	3	Business Law I	
		OR	

ENT 221W	(3)	Law for Entrepreneurs	_____
RC 106	3	Concrete and Foundations	_____
RC 108	2	Construction Safety	_____
RC 200W	3	Construction Contracting Rules and Regulations	_____
RC 203	3	Residential CAD	_____
TTI 120	3	Energy Auditing and Weatherization	_____
	31/34	**SUBTOTAL**	
	64/68	**TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE**	

1. A grade of "C" (2.0) or higher is required in all Basic Program course requirements.
2. If you plan to pursue a 3+1 program in management please meet with a counselor/academic advisor prior to the start of your second year.
3. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
4. Delta College reserves the right to modify graduation requirements.

Criminal Justice Corrections - Certificate of Achievement

Program Code: CSZ.35724

The Delta College Criminal Justice program is designed to give you specialized knowledge of the criminal justice field combined with a broad general educational background. The program offers theoretical, practical, and technical instruction designed to meet an ever-increasing demand and continuous upgrading of personnel by law enforcement agencies. As a graduate of this program, depending on the option chosen, you would be prepared to seek employment as a police officer, corrections officer, conservation officer, public safety dispatcher, juvenile officer, private security, or prepare for careers in probation/parole/courts, federal government, CSI, detective, pre-law and many other related careers.

Certificate Requirements

Course	Credits	Course Title	Completed
CJ 130W	3	Introduction to Corrections	_____
CJ 132W	3	Client Relations in Corrections	_____
CJ 135W	3	Correctional Institutions and Facilities	_____
CJ 233W	3	Client Growth and Development	_____
CJ 238W	3	Legal Issues in Corrections	_____

15 TOTAL CREDITS REQUIRED

1. A grade of “C” (2.0) or higher is required in all courses for the certificate.
2. Employment within the Criminal Justice field may be delayed or denied depending on a history of convictions involving felonies, misdemeanors, and/or involving controlled substances.
3. File an application for an associate or dual degree and/or certificate with the Registrar’s Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
4. Delta College reserves the right to modify graduation requirements.
5. If you plan to pursue an advanced degree, see pages ADVANVED_DEGREE_PAGES for special transfer agreements.

Criminal Justice Corrections with Jail Officer Academy - Certificate of Achievement

Program Code: CSZ.35726

The Delta College Criminal Justice program is designed to give you specialized knowledge of the criminal justice field combined with a broad general educational background. The program offers theoretical, practical, and technical instruction designed to meet an ever-increasing demand and continuous upgrading of personnel by law enforcement agencies. As a graduate of this program, depending on the option chosen, you would be prepared to seek employment as a police officer, corrections officer, conservation officer, public safety dispatcher, juvenile officer, private security, or prepare for careers in probation/parole/courts, federal government, CSI, detective, pre-law and many other related careers.

Certificate Requirements

Course	Credits	Course Title	Completed
CJ 102	4	Jail Academy	
LWA 279	1	Defensive Tactics in Corrections	
LWT 170	1	Basic Life Support for the Health Care Provider	
	6	**TOTAL CREDITS REQUIRED**	

1. A grade of "C" (2.0) or higher is required in all courses for the certificate.
2. Employment within the Criminal Justice field may be delayed or denied depending on a history of convictions involving felonies, misdemeanors, and/or involving controlled substances.
3. CJ 102, LWA 279, and LWT 170 are taken concurrently and together make up the Jail Academy (6 credits). For information about the Jail Academy, contact the Criminal Justice Training Center, 989-686-9108. LWA 279 with LW 170 fulfills the 2 required LWA credits for the Associate Degree.
4. The Local Corrections Office Certification will be awarded upon successful completion of the Jail Office Academy (JOA) Certificate Option.
5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
6. Delta College reserves the right to modify graduation requirements.
7. If you plan to pursue an advanced degree, see pages ADVANVED_DEGREE_PAGES for special transfer agreements.

Criminal Justice Corrections - Associate in Applied Arts

Program Code: AAA.25726

The Delta College Criminal Justice program is designed to give you specialized knowledge of the criminal justice field combined with a broad general educational background. The program offers theoretical, practical, and technical instruction designed to meet an ever-increasing demand and continuous upgrading of personnel by law enforcement agencies. As a graduate of this program, depending on the option chosen, you would be prepared to seek employment as a police officer, corrections officer, conservation officer, public safety dispatcher, juvenile officer, private security, or prepare for careers in probation/parole/courts, federal government, CSI, detective, pre-law and many other related careers.

General Education Core Courses

Course	Credits	Course Title	Completed
COM 112W	3	Fundamentals of Oral Communication	
		OR	
COM 114W	(3)	Interpersonal Communication	
		OR	
COM 212W	(3)	Listening	
		OR	
COM 222	(3)	Introduction to Acting	
CST 133W	4	Computer Concepts & Competencies	
ENG ---	3	Any Approved College Composition I Course **AND**	
ENG ---	3	Any Approved College Composition II Course	
		OR	
ENG ---	(3)	Any Approved College Composition I Course **AND**	
ENG 113	(3)	Technical Communication	
LW ---	1	Any 1 Credit LW Course (As of fall 2007) **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
OAT 170	2	Keyboarding	
POL 103W	3	Any POL 103W American Government Course	
		OR	
POL 104W	(4)	Any POL 104W American Government with Project Course	
		OR	
POL 212W	(3)	State and Local Governments	
PSY 211W	4	Any PSY 211W General Psychology Course	
SOC 211W	3	Any SOC 211W Principles of Sociology Course	
SOC 215W	3	Sociology of Minority Groups	
	30/35	**SUBTOTAL**	

Core Courses

Course	Credits	Course Title	Completed
CJ 110W	3	Introduction to Criminal Justice	
CJ 130W	3	Introduction to Corrections	
CJ 132W	3	Client Relations in Corrections	
CJ 135W	3	Correctional Institutions and Facilities	
CJ 233W	3	Client Growth and Development	
CJ 275W	3	Probation and Parole	
CJ 237W	3	Jails & Local Detention	
CJ 238W	3	Legal Issues in Corrections	
CJ 250	3	The Juvenile Offender	
--- ---	0/5	General Electives	
	27/32	**SUBTOTAL**	
	62	**TOTAL CREDITS REQUIRED**	

1. A grade of "C" (2.0) or higher is required in all core courses except CJ250.
2. This Criminal Justice Program does not certify you for employment as a police enforcement officer as it does not incorporate the Basic Police Training (B.P.T.) Program.
3. Employment within the Criminal Justice field may be delayed or denied depending on a history of convictions involving felonies, misdemeanors, and/or involving controlled substances.
4. Keyboarding waiver test is available for OAT 170. Contact the BIT Division office, 989-686-9127, to arrange for waiver test. If proficiency can be demonstrated in computer concepts and competencies, additional electives may be substituted.
5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
6. Delta College reserves the right to modify graduation requirements.

Criminal Justice Law Enforcement - Associate in Applied Arts

Program Code: AAA.25727

The Delta College Criminal Justice program is designed to give you specialized knowledge of the criminal justice field combined with a broad general educational background. The program offers theoretical, practical, and technical instruction designed to meet an ever-increasing demand and continuous upgrading of personnel by law enforcement agencies. As a graduate of this program, depending on the option chosen, you would be prepared to seek employment as a police officer, corrections officer, conservation officer, public safety dispatcher, juvenile officer, private security, or prepare for careers in probation/parole/courts, federal government, CSI, detective, pre-law and many other related careers.

General Education Courses

Course	Credits	Course Title	Completed
COM 112	3	Any Approved Fundamentals of Oral Communication	
		OR	
COM 114W	(3)	Interpersonal Communication	
		OR	
COM 212W	(3)	Listening	
		OR	
COM 222	(3)	Introduction to Acting	
CST 133W	4	Computer Concepts & Competencies	
ENG ---	3	Any Approved College Composition I Course **AND**	
ENG ---	3	Any Approved College Composition II Course	
		OR	
ENG ---	(3)	Any Approved College Composition I Course **AND**	
ENG 113	(3)	Technical Communication	
LW ---	1	Any 1 Credit LW Course (As of fall 2007) **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
OAT 170	2	Keyboarding	
POL 103W	3	American Government	
		OR	
POL 104W	(4)	American Government with Project	
		OR	
POL 212W	(3)	State and Local Governments	
PSY 211W	4	General Psychology	
SOC 211W	3	Principles of Sociology	
SOC 215W	3	Sociology of Minority Groups	
--- ---	4/5	Any approved Natural Science Course with Lab (MACRAO Transfer)	
--- ---	3/4	General Electives	
	38/39	**SUBTOTAL**	

Core Courses

Course	Credits	Course Title	Completed
CJ 110W	3	Introduction to Criminal Justice	
CJ 111W	3	Police Administration	
CJ 112W	3	Police Operations	
CJ 210W	3	Introduction to Criminal Investigation	
CJ 220W	3	Crime Laboratory Techniques	
CJ 250	3	The Juvenile Offender	
CJ 270W	3	Evidence and Criminal Procedure	
CJ 271W	3	Criminal Law	
	24	**SUBTOTAL**	
	62/63	**TOTAL CREDITS REQUIRED**	

1. A grade of "C" (2.0) or higher is required in all core courses.
2. If proficiency can be demonstrated in Keyboarding and Computer Concepts, additional electives may be substituted for the CST and/or OAT courses. Keyboarding waiver test is available for OAT 170. Contact the BIT Division office, 989-686-9127, to arrange for waiver test.
3. May substitute an approved natural science elective including MTH 119 or higher with a grade of "C" or better for CJ 220. Please refer to the MACRAO information in the catalog. Lab science credit in two different areas would be particularly useful for transferring to a 4-year school and is required in the fulfillment of the MACRAO agreement.
4. This program does not certify you for employment as a police officer as it does not incorporate the Basic Police Training (B.P.T.) Program.
5. Employment within the Criminal Justice field may be delayed or denied depending on a history of convictions involving felonies, misdemeanors, and/or involving controlled substances.
6. You may be eligible for MACRAO credit. Please see MACRAO requirements section in this catalog.
7. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
8. Delta College reserves the right to modify graduation requirements.

Criminal Justice Law Enforcement With Basic Police Training - Certificate of Achievement

Program Code: CSZ.35725

The Delta College Criminal Justice program is designed to give you specialized knowledge of the criminal justice field combined with a broad general educational background. The program offers theoretical, practical, and technical instruction designed to meet an ever-increasing demand and continuous upgrading of personnel by law enforcement agencies. As a graduate of this program, depending on the option chosen, you would be prepared to seek employment as a police officer, corrections officer, conservation officer, public safety dispatcher, juvenile officer, private security, or prepare for careers in probation/parole/courts, federal government, CSI, detective, pre-law and many other related careers.

Core Courses

Course	Credits	Course Title	Completed
CJ 101	6	Police Recruit Training	_____
OAT 153	1	Police Report Writing	_____
LWA 280	2	Self-Defense/Fitness	_____
LWT 175	3	Advanced First Aid and Emergency Care	_____

12 TOTAL CREDITS REQUIRED

1. A grade of “C” (2.0) or higher is required in all courses for the certificate.
2. Courses are taken concurrently and together make up the Basic Police Training (B.P.T.) Academy. For information about B.P.T. students should contact the Delta College Police Academy (N-102, Main campus; phone 989-686-9108).
3. Employment within the Criminal Justice field may be delayed or denied depending on a history of convictions involving felonies, misdemeanors, and/or involving controlled substances.
4. LWA 280 fulfills the 2 credit LW requirement for the Associate Degree.
5. File an application for an associate or dual degree and/or certificate with the Registrar’s Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
6. Delta College reserves the right to modify graduation requirements.
7. If you plan to pursue an advanced degree, see pages ADVANVED_DEGREE_PAGES for special transfer agreements.

Criminal Justice Law Enforcement with Basic Police Training - Associate in Applied Arts

Program Code: AAA.25725

The Delta College Criminal Justice program is designed to give you specialized knowledge of the criminal justice field combined with a broad general educational background. The program offers theoretical, practical, and technical instruction designed to meet an ever-increasing demand and continuous upgrading of personnel by law enforcement agencies. As a graduate of this program, depending on the option chosen, you would be prepared to seek employment as a police officer, corrections officer, conservation officer, public safety dispatcher, juvenile officer, private security, or prepare for careers in probation/parole/courts, federal government, CSI, detective, pre-law and many other related careers.

General Education Courses

Course	Credits	Course Title	Completed
COM 112	3	Any Approved Fundamentals of Oral Communication	
		OR	
COM 114W	(3)	Interpersonal Communication	
		OR	
COM 212W	(3)	Listening	
		OR	
COM 222	(3)	Introduction to Acting	
CST 133W	4	Computer Concepts & Competencies	
ENG ---	3	Any Approved College Composition I Course **AND**	
ENG ---	3	Any Approved College Composition II Course	
		OR	
ENG ---	(3)	Any Approved College Composition I Course	
ENG 113	(3)	Technical Communication	
OAT 170	2	Keyboarding	
POL 103W	3	American Government	
		OR	
POL 104W	(4)	American Government with Project	
		OR	
POL 212W	(3)	State and Local Governments	
PSY 211W	4	General Psychology	
SOC 211W	3	Principles of Sociology	
SOC 215W	3	Sociology of Minority Groups	
--- ---	4/5	Any approved Natural Science Course with Lab (MACRAO Transfer)	
	32/34	**SUBTOTAL**	

Core Courses

Course	Credits	Course Title	Completed
CJ 101	6	Police Recruit Training	
CJ 110W	3	Introduction to Criminal Justice	
CJ 111W	3	Police Administration	
CJ 112W	3	Police Operations	
CJ 210W	3	Introduction to Criminal Investigation	
CJ 220W	3	Crime Laboratory Techniques	
CJ 250	3	The Juvenile Offender	
CJ 270W	3	Evidence and Criminal Procedure	
CJ 271W	3	Criminal Law	
OAT 153	1	Police Report Writing	
LWA 280	2	Self-Defense/Fitness	
LWT 175	3	Advanced First Aid and Emergency Care	
	36	**SUBTOTAL**	
	68/70	**TOTAL CREDITS REQUIRED**	

1. Students who plan to take the Basic Police Training (B.P.T) should see their counselor/advisor or contact the Delta College Police Academy (N-102, Main campus; phone 989-686-9108).
2. A grade of "C" (2.0) or higher is required in all core courses.
3. If proficiency can be demonstrated in Keyboarding and Computer Concepts, additional electives may be substituted for the CST and/or OAT courses. Keyboarding waiver test is available for OAT 170. Contact the BIT Division office, 989-686-9127, to arrange for waiver test.
4. Employment within the Criminal Justice field may be delayed or denied depending on a history of convictions involving felonies, misdemeanors, and/or involving controlled substances.
5. CJ 101, OAT 153, LW 280, and LWT 175 are taken concurrently and together make up the Basic Police Training (B.P.T) Academy. (12 credits) For information about B.P.T. contact the Delta College Police Academy. LWA 280 fulfills the 2-credit LW requirement for the Associate Degree.
6. May substitute an approved natural science elective including MTH 119 or higher with a grade of "C" or better for CJ 220. Please refer to the MACRAO information in the catalog. Lab science credit in two different areas would be particularly useful for transferring to a 4-year school and is required in the fulfillment of the MACRAO agreement.
7. You may be eligible for MACRAO credit. Please see MACRAO requirements in this catalog.
8. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
9. Delta College reserves the right to modify graduation requirements.

Criminal Justice Security/Loss Prevention Specialist - Certificate of Achievement

Program Code: CSZ.35723

The Delta College Criminal Justice program is designed to give you specialized knowledge of the criminal justice field combined with a broad general educational background. The program offers theoretical, practical, and technical instruction designed to meet an ever-increasing demand and continuous upgrading of personnel by law enforcement agencies. As a graduate of this program, depending on the option chosen, you would be prepared to seek employment as a police officer, corrections officer, conservation officer, public safety dispatcher, juvenile officer, private security, or prepare for careers in probation/parole/courts, federal government, CSI, detective, pre-law and many other related careers.

Security/Loss Prevention Specialist Option

Course	Credits	Course Title	Completed
CJ 110W	3	Introduction to Criminal Justice	
CJ 182W	3	Introduction to Security	
CJ 187W	3	Current Issues in Security	
CJ 211W	3	Private Security and Investigative Methods	
CJ 215W	3	Introduction to Homeland Security	
CJ 271W	3	Criminal Law	

18 TOTAL CREDITS REQUIRED

1. A grade of “C” (2.0) or higher is required in all courses for the certificate.
2. Employment within the Criminal Justice field may be delayed or denied depending on a history of convictions involving felonies, misdemeanors, and/or involving controlled substances.
3. File an application for an associate or dual degree and/or certificate with the Registrar’s Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
4. Delta College reserves the right to modify graduation requirements.
5. If you plan to pursue an advanced degree, see pages ADVANVED_DEGREE_PAGES for special transfer agreements.

Criminal Justice Security/Loss Prevention Specialist - Associate in Applied Arts

Program Code: AAA.25723

The Delta College Criminal Justice program is designed to give you specialized knowledge of the criminal justice field combined with a broad general educational background. The program offers theoretical, practical, and technical instruction designed to meet an ever-increasing demand and continuous upgrading of personnel by law enforcement agencies. As a graduate of this program, depending on the option chosen, you would be prepared to seek employment as a police officer, corrections officer, conservation officer, public safety dispatcher, juvenile officer, private security, or prepare for careers in probation/parole/courts, federal government, CSI, detective, pre-law and many other related careers.

General Education Courses

Course	Credits	Course Title	Completed
COM 112W	3	Fundamentals of Oral Communication	
		OR	
COM 114W	(3)	Interpersonal Communication	
		OR	
COM 212W	(3)	Listening	
		OR	
COM 222	(3)	Introduction to Acting	
CST 133W	4	Computer Concepts & Competencies	
ENG ---	3	Any Approved College Composition I Course **AND**	
ENG ---	3	Any Approved College Composition II Course	
		OR	
ENG ---	(3)	Any Approved College Composition I Course **AND**	
ENG 113	(3)	Technical Communication	
LW ---	1	Any 1 Credit LW Course (As of fall 2007) **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
OAT 170	2	Keyboarding	
POL 103W	3	Any POL 103W American Government Course	
		OR	
POL 104W	(4)	Any POL 104W American Government with Project Course	
		OR	
POL 212W	(3)	State and Local Governments	
PSY 211W	4	Any PSY 211W General Psychology Course	
SOC 211W	3	Any SOC 211W Principles of Sociology Course	
SOC 215W	3	Sociology of Minority Groups	
	30/31	**SUBTOTAL**	

Core Courses

Course	Credits	Course Title	Completed
ACC 211	4	Principles of Accounting I	
CJ 110W	3	Introduction to Criminal Justice	
CJ 182W	3	Introduction to Security	
CJ 187W	3	Current Issues in Security	
CJ 211W	3	Private Security and Investigative Methods	
CJ 215W	3	Introduction to Homeland Security	
CJ 271W	3	Criminal Law	
LWT 165	1	Community First Aid	
MGT 251W	3	Business Law I	
--- ---	5/6	General Electives	
	31/32	**SUBTOTAL**	
	62	**TOTAL CREDITS REQUIRED**	

1. A grade of "C" (2.0) or higher is required in all core courses. (Excluding LWT 165 and general electives)
2. If proficiency can be demonstrated in computer competencies, additional electives may be substituted.
3. Keyboarding waiver test is available for OAT 170. Contact the BIT Division office, 989-686-9127, to arrange for waiver test.
4. Employment within the Criminal Justice field may be delayed or denied depending on a history of convictions involving felonies, misdemeanors, and/or involving controlled substances.
5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
6. Delta College reserves the right to modify graduation requirements.
7. If you plan to pursue an advanced degree, see pages ADVANVED_DEGREE_PAGES for special transfer agreements.

Customer Energy Specialist - Advanced Certificate

Program Code: CTA.35873

Special program for training Consumers Energy personnel. Not intended for general population.

1st Semester

Course	Credits	Course Title	Completed
CST 134	3	Micro Computers in Business Using MS Office	
DRF 104	4	Basic Mechanical Design	
		OR	
DRF 105	(3)	Beginning Mechanical Design	
ENG ---	3/5	Any Approved College Composition I Course	
	9/12	**SUBTOTAL**	

2nd Semester

Course	Credits	Course Title	Completed
CAD 114	3	Introduction to CAD	
ENG 113	3	Technical Communication	
MGT 153W	3	Introduction to Business	
	9	**SUBTOTAL**	

3rd Semester

Course	Credits	Course Title	Completed
ACC 111	4	Introductory Accounting	
CAD 214	2	CAD Techniques	
MGT 243	3	Principles of Marketing	
PHY 101	4	Applied Physics	
	13	**SUBTOTAL**	

4th Semester

Course	Credits	Course Title	Completed
COM 114W	3	Interpersonal Communication	
MGT 251W	3	Business Law I	
SKMA 111	6	Applied Integrated Electrical Math I	
	12	**SUBTOTAL**	

Additional Courses for Required for Certificate

Course	Credits	Course Title	Completed
EDD 130	4	Electric Distribution Design I	
EDD 132	4	Electric Distribution Design II	
	8	**SUBTOTAL**	

Additional Credits to Complete Associates in General Studies

Course	Credits	Course Title	Completed
POL ---	3/4	Any Approved American Government Requirement	
--- ---	5/9	Elective credits (any 100 level course or above)	
	8/13	**SUBTOTAL**	
	51/54	**TOTAL CREDITS REQUIRED FOR CERTIFICATE**	

1. Prerequisite/knowledge required - see current Delta College Catalog.
2. EDD 130 and 132 are courses taken through Consumers Energy. Upon completion of these “in house” classes, a certificate will be issued. A copy of this certificate must be turned into Registrar’s Office in order to receive college credit.
3. File an application for an associate or dual degree and/or certificate with the Registrar’s Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
4. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Cust Energy Spec Adv Cert**

Cust Energy Spec Adv Cert

Total Program Cost (In District):	$7,363.80
On-Time Completion Rate:	NA
Program Job Placement Rate:	NA
Median Loan Dept:	NA

Dental Assisting - Advanced Certificate

Program Code: CHA.35512

As a graduate of this program, you will be prepared to assist the dentist in diagnostic, operative, restorative, preventive and surgical procedures, as well as perform independent duties once you pass the RDA exam. Registered Dental Assistants in Michigan place and carve amalgam restorations; do selective coronal polishing; place sealants, fluoride, periodontal dressings, temporary crowns, dental dams, cavity liners and bases, orthodontic elastics and ligatures and arch wires; take impressions and radiographs; remove sutures; provide patient education; perform business office, laboratory and infection control duties. Opportunities are available for full-time and part-time employment in private dental offices and clinics as well as military, sales, research, and teaching. Salary depends on experience, duties and responsibility, geographic location and individual employer. Employment opportunities are comparable to the economy within the Great Lakes Bay Region and the state of Michigan. You should display the following positive attributes; manual dexterity; physical and mental health; vision; communication skill; ability to work as a team member; ability to follow directions; professional judgment and conduct; neat work habits; professional appearance and maintain personal hygiene; commitment to continuing education. Upon completing this program, you are eligible to take the certification exam of the Dental Assisting National Board to become a Certified Dental Assistant (CDA) and the Michigan Department of Community Health exam to become a Registered Dental Assistant (RDA). This program is accredited by the Commission on Dental Accreditation of the American Dental Association.

General Education Prerequisite Courses

Course	Credits	Course Title	Completed
BIO 140W	5	Essentials Of Human Anatomy & Physiology	
		OR	
BIO 152W	(4)	Human Anatomy & Physiology I **AND**	
BIO 153W	(4)	Human Anatomy & Physiology II	
COM 112W	3	Fundamentals of Oral Communication	
		OR	
COM 114W	(3)	Interpersonal Communication	
ENG ---	3	Any Approved College Composition I Course	
		OR	
OAT 151	(3)	Business Communication I	
	11/14	**SUBTOTAL**	

ONE-YEAR TRACK - The following courses must be taken in the sequence shown.

ONE-YEAR TRACK - FALL SEMESTER

Course	Credits	Course Title	Completed
DA 106W	1	Infection Control	
DA 110	3	Clinical Dental Assisting I	
DA 110LW	4	Clinical Dental Assisting I Lab	
DA 113W	4	Oral Anatomy & Physiology	
DA 114W	2	Dental Materials I	
DA 117W	1	Dental Health and Nutrition	
HSC 140	2	Basic Medical Emergencies	
	17	**SUBTOTAL**	

ONE-YEAR TRACK - WINTER SEMESTER

Course	Credits	Course Title	Completed
DA 120	3	Clinical Dental Assisting II	
DA 120LW	4	Clinical Dental Assisting II Lab	
DA 121W	4	Clinical Practice	
DA 123W	2	Dental Radiology	
DA 123LW	2	Dental Radiology Lab	
DA 125W	2	Dental Materials II	
DA 125LW	2	Dental Materials II Lab	
	19	**SUBTOTAL**	

ONE-YEAR TRACK - SPRING SESSION

Course	Credits	Course Title	Completed
DA 129W	3	Dental Office Management	
DA 131W	1	RDA Exam Prep	
DA 131LW	4	RDA Exam Prep Lab	
	8	**SUBTOTAL**	

ONE-YEAR TRACK - SUMMER SESSION

Course	Credits	Course Title	Completed
DA 130	6	Dental Assisting Internship	
DA 133	1	Dental Assisting Internship Seminar	
	7	**SUBTOTAL**	

TWO-YEAR TRACK - The following courses must be taken in the sequence shown.

TWO-YEAR TRACK FIRST YEAR - FALL SEMESTER

Course	Credits	Course Title	Completed
DA 113W	4	Oral Anatomy & Physiology	
DA 117W	1	Dental Health and Nutrition	
HSC 140	2	Basic Medical Emergencies	
	7	**SUBTOTAL**	

TWO-YEAR TRACK FIRST YEAR - WINTER SEMESTER

Course	Credits	Course Title	Completed
DA 123W	2	Dental Radiology	
DA 123LW	2	Dental Radiology Lab	
	4	**SUBTOTAL**	

TWO-YEAR TRACK FIRST YEAR - SPRING SESSION

Course	Credits	Course Title	Completed
DA 129W	3	Dental Office Management	
	3	**SUBTOTAL**	

TWO-YEAR TRACK SECOND YEAR - FALL SEMESTER

Course	Credits	Course Title	Completed
DA 106W	1	Infection Control	
DA 110	3	Clinical Dental Assisting	
DA 110LW	4	Clinical Dental Assisting I Lab	
DA 114W	2	Dental Materials I	
	10	**SUBTOTAL**	

TWO-YEAR TRACK SECOND YEAR - WINTER SEMESTER

Course	Credits	Course Title	Completed
DA 120	3	Clinical Dental Assisting II	
DA 120LW	4	Clinical Dental Assisting II Lab	
DA 121W	4	Clinical Practice	
DA 125W	2	Dental Materials II	
DA 125LW	2	Dental Materials II Lab	
	15	**SUBTOTAL**	

TWO-YEAR TRACK SECOND YEAR - SPRING SESSION

Course	Credits	Course Title	Completed
DA 131W	1	RDA Exam Prep	
DA 131LW	4	RDA Exam Prep Lab	
	5	**SUBTOTAL**	

TWO-YEAR TRACK SECOND YEAR - SUMMER SESSION

Course	Credits	Course Title	Completed
DA 130W	6	Dental Assisting Internship	
DA 133W	1	Dental Assisting Internship Seminar	
	7	**SUBTOTAL**	
	62/65	**TOTAL CREDITS REQUIRED**	

1. Due to the limited capacity of the Delta College dental facilities and the specific requirements of the Commission on Accreditation of Dental and Dental Auxiliary Educational Programs, enrollment is limited.
2. You must achieve a "C" (2.0) minimum grade in each DA course to be eligible to continue enrollment in this program.
3. Core prerequisite courses must be completed prior to taking any DA course. A grade of "C" (2.0) or higher is required in all courses for the certificate.
4. Once enrolled in the DA course sequence, you will be required to provide documentation of a current physical exam including a Hepatitis B and TB Carrier test prior to enrolling in any second semester course. A Hepatitis B vaccination is strongly recommended by the faculty and by the Commission on Dental Accreditation.
5. In addition to tuition, textbook costs, and supply costs, you must purchase laboratory attire and other infectious disease barriers. You must provide your own transportation to dental office facilities and internship office assignments. You must supply your own patients for DA 123L and DA 131L.
6. HSC 140 can be taken prior to enrollment in the program for CPR certification. However, if HSC 140 is taken prior to enrollment into the Dental Assisting program, you must maintain valid CPR certification for the second semester of the program and the sequential courses. It is also required for the Certification Exam and the Registered Dental Assistant Exam.
7. Validation is not required for this Health program.
8. This program can be completed in a one-year track or a two-year track option. A limited number of two-year track seats are available each year. See the program coordinator for two-year track scheduling assistance.
9. Students seeking to transfer credit to another college or university should take the approved English composition courses instead of OAT courses; also BIO 152 and BIO 153 instead of BIO 140. Consult with the Advising office for assistance with course selection.
10. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
11. Delta College reserves the right to modify graduation requirements.
12. If you plan to pursue an advanced degree, see pages ADVANVED_DEGREE_PAGES for special transfer agreements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Dental Assisting Adv Cert**

Dental Assisting Adv Cert

Total Program Cost (In District):	$8,945.60
On-Time Completion Rate:	91.70%
Program Job Placement Rate:	100.00%
Median Loan Dept:	$5,765.00

Dental Assisting - Associate in Applied Science

Program Code: AAS.20510

As a graduate of this program, you will be prepared to assist the dentist in diagnostic, operative, restorative, preventive and surgical procedures, as well as perform independent duties once you pass the RDA exam. Registered Dental Assistants in Michigan place and carve amalgam restorations; do selective coronal polishing; place sealants, fluoride, periodontal dressings, temporary crowns, dental dams, cavity liners and bases, orthodontic elastics and ligatures and arch wires; take impressions and radiographs; remove sutures; provide patient education; perform business office, laboratory and infection control duties. Opportunities are available for full-time and part-time employment in private dental offices and clinics as well as military, sales, research, and teaching. Salary depends on experience, duties and responsibility, geographic location and individual employer. Employment opportunities are comparable to the economy within the Great Lakes Bay Region and the state of Michigan. You should display the following positive attributes; manual dexterity; physical and mental health; vision; communication skill; ability to work as a team member; ability to follow directions; professional judgment and conduct; neat work habits; professional appearance and maintain personal hygiene; commitment to continuing education. Upon completing this program, you are eligible to take the certification exam of the Dental Assisting National Board to become a Certified Dental Assistant (CDA) and the Michigan Department of Community Health exam to become a Registered Dental Assistant (RDA). This program is accredited by the Commission on Dental Accreditation of the American Dental Association.

General Education Prerequisite Courses

Course	Credits	Course Title	Completed
BIO 140W	5	Essentials Of Human Anatomy & Physiology	
		OR	
BIO 152W	(4)	Human Anatomy & Physiology I **AND**	
BIO 153W	(4)	Human Anatomy & Physiology II	
		AND	
COM 112W	3	Fundamentals of Oral Communication	
		OR	
COM 114W	(3)	Interpersonal Communication	
ENG ---	3	Any Approved College Composition I Course	
		OR	
OAT 151	(3)	Business Communication I	
	11/14	**SUBTOTAL**	

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition II Course	
		OR	
OAT 152	(3)	Business Communication II	
LW ---	1	Any 1 Credit LW Course (As of fall 2007) **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
POL ---	3/4	Any Approved American Government Requirement	
PSY 101W	3	Applied Psychology	
		OR	
PSY 211W	(4)	General Psychology	
	11/13	**SUBTOTAL**	

ONE-YEAR TRACK - The following courses must be taken in the sequence shown.

ONE-YEAR TRACK - FALL SEMESTER

Course	Credits	Course Title	Completed
DA 106W	1	Infection Control	
DA 110	3	Clinical Dental Assisting I	
DA 110LW	4	Clinical Dental Assisting I Lab	
DA 113W	4	Oral Anatomy & Physiology	
DA 114W	2	Dental Materials I	
DA 117W	1	Dental Health and Nutrition	
HSC 140	2	Basic Medical Emergencies	
	17	**SUBTOTAL**	

ONE-YEAR TRACK - WINTER SEMESTER

Course	Credits	Course Title	Completed
DA 120	3	Clinical Dental Assisting II	
DA 120LW	4	Clinical Dental Assisting II Lab	
DA 121W	4	Clinical Practice	
DA 123W	2	Dental Radiology	
DA 123LW	2	Dental Radiology Lab	
DA 125W	2	Dental Materials II	
DA 125LW	2	Dental Materials II Lab	
	19	**SUBTOTAL**	

ONE-YEAR TRACK - SPRING SESSION

Course	Credits	Course Title	Completed
DA 129W	3	Dental Office Management	
DA 131W	1	RDA Exam Prep	
DA 131LW	4	RDA Exam Prep Lab	
	8	**SUBTOTAL**	

ONE-YEAR TRACK - SUMMER SESSION

Course	Credits	Course Title	Completed
DA 130	6	Dental Assisting Internship	
DA 133	1	Dental Assisting Internship Seminar	
	7	**SUBTOTAL**	

TWO-YEAR TRACK - The following courses must be taken in the sequence shown.

TWO-YEAR TRACK FIRST YEAR - FALL SEMESTER

Course	Credits	Course Title	Completed
DA 113W	4	Oral Anatomy & Physiology	
DA 117W	1	Dental Health and Nutrition	
HSC 140	2	Basic Medical Emergencies	
	7	**SUBTOTAL**	

TWO-YEAR TRACK FIRST YEAR - WINTER SEMESTER

Course	Credits	Course Title	Completed
DA 123W	2	Dental Radiology	
DA 123LW	2	Dental Radiology Lab	
	4	**SUBTOTAL**	

TWO-YEAR TRACK FIRST YEAR - SPRING SESSION

Course	Credits	Course Title	Completed
DA 129W	3	Dental Office Management	
	3	**SUBTOTAL**	

TWO-YEAR TRACK SECOND YEAR - FALL SEMESTER

Course	Credits	Course Title	Completed
DA 106W	1	Infection Control	
DA 110	3	Clinical Dental Assisting	
DA 110LW	4	Clinical Dental Assisting I Lab	
DA 114W	2	Dental Materials I	
	10	**SUBTOTAL**	

TWO-YEAR TRACK SECOND YEAR - WINTER SEMESTER

Course	Credits	Course Title	Completed
DA 120	3	Clinical Dental Assisting II	
DA 120LW	4	Clinical Dental Assisting II Lab	
DA 121W	4	Clinical Practice	
DA 125W	2	Dental Materials II	
DA 125LW	2	Dental Materials II Lab	
	15	**SUBTOTAL**	

TWO-YEAR TRACK SECOND YEAR - SPRING SESSION

Course	Credits	Course Title	Completed
DA 131W	1	RDA Exam Prep	
DA 131LW	4	RDA Exam Prep Lab	
	5	**SUBTOTAL**	

TWO-YEAR TRACK SECOND YEAR - SUMMER SESSION

Course	Credits	Course Title	Completed
DA 130W	6	Dental Assisting Internship	
DA 133W	1	Dental Assisting Internship Seminar	
	7	**SUBTOTAL**	
	73/79	**TOTAL CREDITS REQUIRED**	

1. Due to the limited capacity of the Delta College dental facilities and the specific requirements of the Commission on Accreditation of Dental and Dental Auxiliary Educational Programs, enrollment is limited.
2. Once enrolled in the DA course sequence, you will be required to provide documentation of a current physical exam including a Hepatitis B and TB Carrier test prior to enrolling in any second semester course. A Hepatitis B vaccination is strongly recommended by the faculty and by the Commission on Dental Accreditation.
3. In addition to tuition, textbook costs, and supply costs, you must purchase laboratory attire and other infectious disease barriers. You must provide your own transportation to dental office facilities and internship office assignments. You must supply your own patients for DA 123L and DA 131L.
4. HSC 140 can be taken prior to enrollment in the program for CPR certification. However, if HSC 140 is taken prior to enrollment into the Dental Assisting program, you must maintain valid CPR certification for the second semester of the program and the sequential courses. It is also required for the Certification Exam and the Registered Dental Assistant Exam.
5. General Education Prerequisite courses must be completed prior to taking any DA course. A grade of “C” (2.0) or higher is required in all courses for the program.
6. You must achieve a “C” (2.0) minimum grade in each DA course to be eligible to continue enrollment in this program.
7. Validation is not required for this Health program.
8. This program can be completed in a one-year track or a two-year track option. A limited number of two-year track seats are available each year. See the program coordinator for two-year track scheduling assistance.
9. Students who are seeking transfer credit to another college or university should take the approved English composition courses instead of the OAT courses; also BIO 152 and BIO 153 instead of BIO 140. Consult with the Counseling & Advising Center for help with your course selection.
10. File an application for an associate or dual degree and/or certificate with the Registrar’s Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
11. Delta College reserves the right to modify graduation requirements.
12. If you plan to pursue an advanced degree, see pages ADVANVED_DEGREE_PAGES for special transfer agreements.

Dental Hygiene - Associate in Applied Science

Program Code: AAS.20515

As a graduate of this program, you will have the knowledge and skills to provide preventive and therapeutic treatments and services prescribed by and under the supervision of the dentist. Specific responsibilities vary, depending on the law of the state where you are employed, but generally include: scaling and root debridement; application of topical fluoride and medicines for the prevention of tooth decay; taking impressions and preparing diagnostic models; expose, process and mount dental radiographs; provide instructions for patient self-care and nutritional counseling; and perform laboratory procedures. In Michigan registered dental hygienists are also allowed to provide local anesthesia and nitrous oxide to patients 18 years of age and older. Upon successfully completing this program, you will be eligible to take the National, Regional and State Board Examinations for Dental Hygiene licensure, since Delta College's program is accredited by the Commission on Dental Accreditation of the American Dental Association, a specialized accrediting body recognized by the Council on Postsecondary Accreditation and the U.S. Department of Education. This is a suggested enrollment sequence for all full-time students. There are various employment opportunities for the registered dental hygienist. The registered hygienist may choose employment in a general or specialty dental practice, schools, clinics, hospitals, HMOs, public health, or governmental agencies. The dental hygienist may also be employed in the area of management, research, sales, consulting or education.

General Education Courses

Course	Credits	Course Title	Completed
BIO 140	5	Essentials of Human Anatomy & Physiology	
		OR	
BIO 152	(4)	Human Anatomy & Physiology I **AND**	
BIO 153	(4)	Human Anatomy & Physiology II	
		OR	
BIO 240	(4)	Human Anatomy **AND**	
BIO 241	(4)	Physiology	
BIO 203W	4	General Microbiology	
COM 112W	3	Fundamentals of Oral Communication **OR**	
COM 114W	(3)	Interpersonal Communication	
DH 100	1	Dental Hygiene Profession	
DH 101	2	Dental Anatomy I	
ENG ---	3	Any Approved College Composition I Course	
ENG ---	3	Any Approved College Composition II Course	
POL ---	3/4	Any Approved American Government Requirement	
PSY 101	3	Applied Psychology **OR**	
PSY 211	(4)	General Psychology	
SOC 211	3	Principles of Sociology	
	30/35	**SUBTOTAL**	

Prior to attempting to register to begin the clinical sequence, you must complete the "Validation Application" and be officially validated. See Validation Procedures in this catalog for the required procedures.

Clinical Course Sequence

First Semester (Fall)

Course	Credits	Course Title	Completed
DH 110	2	Dental Infection Control	
DH 111	1	Oral Examinations	
DH 112	2	Medical Assessment/Emergencies	
DH 114	2	Oral Health	
DH 115	5	Clinical Techniques	
DH 116	3	Preventive Nutrition	
DH 118	3	Head and Neck Anatomy	
	18	**SUBTOTAL**	

Second Semester (Winter)

Course	Credits	Course Title	Completed
DH 120	3	Periodontics I	
DH 121	2	Dental Hygiene Seminar I	
DH 122	3	Oral Histology and Embryology	
DH 123	2	Dental Radiography	
DH 123L	1	Dental Radiography Lab	
DH 124	2	Pharmacology for Dental Hygiene	
DH 125	4	Clinical Dental Hygiene I	
LW 206A	1	Occupational Wellness 1	
	18	**SUBTOTAL**	

Third Semester (Spring)

Course	Credits	Course Title	Completed
DH 130	3	Management of Dental Pain and Anxiety in the Dental Office	
DH 131	1	Dental Hygiene Seminar II	
DH 135	3	Clinical Dental Hygiene II	
LWA 206B	.5	Occupational Wellness 2	
	7.5	**SUBTOTAL**	

Fourth Semester (Fall)

Course	Credits	Course Title	Completed
DH 210	2	Periodontics II	
DH 213	3	Oral Pathology	
DH 214W	4	Dental Materials	
DH 215	6	Clinical Dental Hygiene III	
DH 216W	2	Community Dentistry I	
DH 219W	0.5	Case Study Documentation I	
	17.5	**SUBTOTAL**	

Fifth Semester (Winter)

Course	Credits	Course Title	Completed
DH 222W	1.5	Case Study Documentation II	
DH 225	6	Clinical Dental Hygiene IV	
DH 227W	1	Community Dentistry II	
DH 228	1	Dental Hygiene Seminar III	
DH 229	2	Seminar on Practical Exam	
LWA 206C	0.5	Occupational Wellness 3	
	12.0	**SUBTOTAL**	
	103/108	**TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE**	

1. A grade of "C" (2.0) or better is required in all prerequisite courses.
2. A minimum grade of "B" (3.0) is required in BIO 140.
3. It is highly recommended that you make an appointment with the Health and Wellness Counselor to go over the prerequisites and discuss your career choice prior to starting your prerequisites.
4. A maximum of 18 students will be accepted each fall semester for the Dental Hygiene courses.
5. Prerequisite qualifications are: a) high school graduate or GED equivalent; b) be admitted to Delta College; c) submit to Delta College complete transcripts from high school and other colleges attended; d) successfully complete prerequisite courses; e) follow the validation procedures as outlined in Health Program procedures of this catalog once the prerequisites are completed.
6. Dental Hygiene courses are offered mostly during day hours with some evening and Saturday hours, and must be taken together in the sequence shown. You must achieve a minimum "C" (2.0) grade in each Dental Hygiene course to be eligible to continue in the program.
7. After enrolling in the clinical, you must have a complete physical examination, including TB and Hepatitis carrier tests. It is highly recommended that you talk to your family physician about receiving the hepatitis vaccine before you start the professional course sequence of Dental Hygiene.
8. You must maintain a current Professional Rescuer CPR certification throughout your enrollment in the Dental Hygiene courses, plus you must maintain your certification to be a licensed Dental Hygienist in the State of Michigan.
9. In addition to tuition, fees, and textbook costs, you must purchase laboratory coats, clinic shoes, uniform pants, safety glasses, and the Dental Hygiene Instrument Kits (additional costs approximately $2,600).
10. Student re-entry procedures are printed in the handbook given to all clinical students.

11. Dental Hygiene students should be taking DH 101 for Dental Anatomy. DA 113 Oral Anatomy & Physiology may be substituted for DH 101 if a "B" (3.0) or higher was achieved in the course.
12. According to State rules and regulations, licensure may be delayed or denied depending on the history of convictions involving felonies, misdemeanors, and/or involving controlled substances (including traffic violations). Questions dealing with this issue should be directed to the Michigan State Office of Health Services at (517) 335-0918.
13. Successful completion of LW 206A, LWA 206B, and LWA 206C meets the Lifelong Wellness graduation requirement.
14. Also see "Dual Degrees."
15. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
16. Delta College reserves the right to modify graduation requirements.

Diagnostic Medical Sonography - Advanced Certificate

Program Code: CHA.35545

Ultrasound is a diagnostic imaging modality that uses high frequency sound waves to obtain anatomical images of the abdominal, pelvic, fetus, and vasculature systems. A sonographer is a skilled health care professional who performs diagnostic ultrasound examinations under the direction of a physician. Sonographers use their knowledge of anatomy and physiology, pathology, and ultrasound physics in order to obtain quality images for interpretation. A sonographer must be proficient in problem solving and possess the ability to extrapolate pertinent patient history along with supporting clinical data to facilitate optimum diagnostic results. Upon successfully completing this program, students are eligible to take the national certification examination administered by the American Registry of Diagnostic Medical Sonographers to become entry-level general sonographers. This program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), 1361 Park Street, Clearwater, FL 33756; ph: 727-210-2350; fx: 727-210-2354; www.caahep.org.

General Education Courses

Course	Credits	Course Title	Completed
BIO 140W	5	Essentials Of Human Anatomy & Physiology	
		OR	
BIO 152W	(4)	Human Anatomy & Physiology I **AND**	
BIO 153W	(4)	Human Anatomy & Physiology II	
COM 114W	3	Interpersonal Communication	
ENG ---	3	Any Approved College Composition I Course	
ENG 113	3	Technical Communication	
HSC 105	2	Medical Terminology	
PHY 101	4	Applied Physics	
		OR	
PHY 111	(4)	General Physics I	
	20/23	**SUBTOTAL**	

Prior to attempting to register to begin the clinical sequence, you must complete the admission process for the DMS program. See notations.
Basic Program Requirements

First Semester (Fall)

Course	Credits	Course Title	Completed
DMS 100	2	Patient Care and Management	
DMS 105W	2	Ultrasound Physics and Instrumentation I	
DMS 107	0.5	Introduction to Ultrasound Scanning	
DMS 107L	1.5	Introduction to Ultrasound Scanning Lab	
DMS 108W	1	Becoming a Master Sonography Student	
	7	**SUBTOTAL**	

Second Semester (Winter)

Course	Credits	Course Title	Completed
DMS 101	2	Introduction to Sonography	
DMS 103	3	Introduction to Abdominal Sonography	
DMS 104	2	Introduction to OB/GYN Sonography	
DMS 106W	4	Ultrasound Scanning	
	11	**SUBTOTAL**	

Third Semester (Spring/Summer)

Course	Credits	Course Title	Completed
DMS 112	1	Small Parts Sonography	
DMS 113	1	Advanced Abdominal Sonography	
DMS 114	2	Advanced OB/GYN Sonography	
DMS 115	2	Ultrasound Physics and Instrumentation II	
DMS 116	0.5	Clinical Seminar I	
DMS 117	5	Clinical Education I	
	11.5	**SUBTOTAL**	

Fourth Semester (Fall)

Course	Credits	Course Title	Completed
DMS 201	3	Introduction to Neurologic and Vascular Sonography	
DMS 202	4	Ultrasound Seminar I	
DMS 206	0.5	Clinical Seminar II	
DMS 207	5	Clinical Education II	
	12.5	**SUBTOTAL**	

Fifth Semester (Winter)

Course	Credits	Course Title	Completed
DMS 212	4	Ultrasound Seminar II	
DMS 217	5	Clinical Education III	
	9	**SUBTOTAL**	
	71/74	**TOTAL CREDITS REQUIRED**	

1. A maximum of 14 students will be accepted each fall semester for the DMS program. The procedure for application to the DMS program can be obtained from Counseling, the DMS web site (http://www.delta.edu/health/sonography.aspx), or the DMS Program Coordinator. Students will be eligible to register for clinical courses only after successful validation. Validation will include: 1) meeting all admission criteria with the required nine (9) points; 2) qualifying under Option A (graduate of a qualified allied health program), OR obtaining a "B" (3.0) minimum grade in each course under Option B (see notation 2); and 3) successfully passing a required interview. (Interview resources are available in the Delta College Career Services office.) In addition, all students must demonstrate English competency of READING LEVEL 5 and WRITING LEVEL 3, and Math competency of MATH LEVEL 4 prior to application.
2. Program qualifications include: (a) High school graduate or GED equivalent; (b) Be admitted to Delta College; (c) Provide transcripts from high school and other colleges attended.
3. Prerequisite qualifications are: Graduate of an accredited allied health program or completion of the following courses with a "B" (3.0) or better: BIO 140 or BIO 152 and BIO 153, HSC 105, any approved College Composition I course, ENG 113, COM 114 or SPH 114, PHY 101 or PHY 111. If you are an allied health program graduate but the program did not include college level physics, you will still be required to take PHY 101 or PHY 111 with a "B" (3.0) or better. Medical Radiography Physics will meet this requirement.
4. Students are strongly encouraged to retake BIO 140 and HSC 105 (or equivalents) prior to entering the program if it has been more than 5 years since they took the course. Students will be required to retake BIO 140 and HSC 105 (or equivalents) to validate if it has been longer than 10 years since they originally took the course.
5. Basic computer literacy skills or CST 103 or CST 106. is required.
6. Other program requirements: (a) Current CPR for the Professional Rescuer certification is required for admission to the clinical sequence. CPR currency must be maintained throughout the program; (b) Submit a completed Student Physical Examination Form, which requires a negative TB test; (c) Submit evidence of Hepatitis B immunization or signed waiver form provided during orientation.
7. Certification may be delayed or denied depending on the history of criminal convictions. Questions regarding this issue may be directed to the ARDMS (American Registry of Diagnostic Medical Sonographers) at www.ardms.org or (301) 738-8401.
8. In addition to tuition, fees, and textbook costs, you must purchase uniforms, name tags, and clinical shoes; provide your transportation to clinical settings; pay for meals, parking fees, and any medical treatment which may become necessary.
9. All students will be required to undergo a background check prior to admittance to the DMS program and may be required to have a drug screen, dependent upon clinical site assignments. Students with a felony conviction will not be admitted to the DMS program. All other misdemeanor offenses must be 10 years or older for admittance to the program. Delta College cannot guarantee students with a positive background check the clinical site placement needed to meet program requirements. Thus, program completion may not be possible regardless of the length of time since conviction.
10. DMS program courses must be taken together in the sequence shown. Clinical education courses are conducted primarily during daytime hours; however, off-shifts (second and third shifts) may be assigned to meet course objectives.
11. You must achieve a "B" (3.0) minimum grade in each DMS course to be eligible to continue in and graduate from the DMS program. You must comply with all DMS program progression and retention policies (copies available from the Health Programs counselor or DMS program coordinator.)
12. Student clinical rotations will consist of two separate six-month placements. Many clinical sites are located outside the tri-city area and some are out of state. Students must be prepared to commute and/or relocate.
13. All DMS students are expected to complete the ARDMS abdomen, obstetric/gynecology, and physics certifying boards. Students may complete the physics certifying exam after successful completion of DMS 105 and 115 prior to program completion.
14. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
15. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Sonography Diagn Med Adv Cert**

Sonography Diagn Med Adv Cert

Total Program Cost (In District):	$10,096.00
On-Time Completion Rate:	NA
Program Job Placement Rate:	NA
Median Loan Dept:	NA

Diagnostic Medical Sonography - Associate in Applied Science

Program Code: AAS.20547

Ultrasound is a diagnostic imaging modality that uses high frequency sound waves to obtain anatomical images of the abdominal, pelvic, fetus, and vasculature systems. A sonographer is a skilled health care professional who performs diagnostic ultrasound examinations under the direction of a physician. Sonographers use their knowledge of anatomy and physiology, pathology, and ultrasound physics in order to obtain quality images for interpretation. A sonographer must be proficient in problem solving and possess the ability to extrapolate pertinent patient history along with supporting clinical data to facilitate optimum diagnostic results. Upon successfully completing this program, students are eligible to take the national certification examination administered by the American Registry of Diagnostic Medical Sonographers to become entry-level general sonographers. This program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), 1361 Park Street, Clearwater, FL 33756; ph: 727-210-2350; fx: 727-210-2354; www.caahep.org.

General Education Courses

Course	Credits	Course Title	Completed
BIO 140W	5	Essentials Of Human Anatomy & Physiology	
		OR	
BIO 152W	(4)	Human Anatomy & Physiology I **AND**	
BIO 153W	(4)	Human Anatomy & Physiology II	
COM 114W	3	Interpersonal Communication	
ENG ---	3	Any Approved College Composition I Course	
ENG 113	3	Technical Communication	
HSC 105	2	Medical Terminology	
PHY 101	4	Applied Physics	
		OR	
PHY 111	(4)	General Physics I	
POL ---	3/4	Any Approved American Government Requirement	
PSY 211W	4	General Psychology	
PHL 215W	3	Health Care Ethics	
SOC 211W	3	Principles of Sociology	
	33/37	**SUBTOTAL**	

Prior to attempting to register to begin the clinical sequence, you must complete the admission process for the DMS program. See notations.
Basic Program Requirements

First Semester (Fall)

Course	Credits	Course Title	Completed
DMS 100	2	Patient Care and Management	
DMS 105W	2	Ultrasound Physics and Instrumentation I	
DMS 107	0.5	Introduction to Ultrasound Scanning	
DMS 107L	1.5	Introduction to Ultrasound Scanning Lab	
DMS 108W	1	Becoming a Master Sonography Student	
	7	**SUBTOTAL**	

Second Semester (Winter)

Course	Credits	Course Title	Completed
DMS 101	2	Introduction to Sonography	
DMS 103	3	Introduction to Abdominal Sonography	
DMS 104	2	Introduction to OB/GYN Sonography	
DMS 106W	4	Ultrasound Scanning	
LW 206A	1	Occupational Wellness 1	
	12	**SUBTOTAL**	

Third Semester (Spring/Summer)

Course	Credits	Course Title	Completed
DMS 112	1	Small Parts Sonography	
DMS 113	1	Advanced Abdominal Sonography	
DMS 114	2	Advanced OB/GYN Sonography	
DMS 115	2	Ultrasound Physics and Instrumentation II	
DMS 116	0.5	Clinical Seminar I	
DMS 117	5	Clinical Education I	
LW 206B	0.5	Occupational Wellness 2	
	12	**SUBTOTAL**	

Fourth Semester (Fall)

Course	Credits	Course Title	Completed
DMS 201	3	Introduction to Neurologic and Vascular Sonography	
DMS 202	4	Ultrasound Seminar I	
DMS 206	0.5	Clinical Seminar II	
DMS 207	5	Clinical Education II	
LW 206C	0.5	Occupational Wellness 3	
	13	**SUBTOTAL**	

Fifth Semester (Winter)

Course	Credits	Course Title	Completed
DMS 212	4	Ultrasound Seminar II	
DMS 217	5	Clinical Education III	
	9	**SUBTOTAL**	
	86/90	**TOTAL CREDITS REQUIRED**	

1. A maximum of 14 students will be accepted each fall semester for the DMS program. The procedure for application to the DMS program can be obtained from Counseling, the DMS web site (http://www.delta.edu/health/sonography.aspx), or the DMS Program Coordinator. Students will be eligible to register for clinical courses only after successful validation. Validation will include: 1) meeting all admission criteria with the required nine (9) points; 2) qualifying under Option A (graduate of a qualified allied health program), OR obtaining a "B" (3.0) minimum grade in each course under Option B (see notation 2); and 3) successfully passing a required interview. (Interview resources are available in the Delta College Career Services office.) In addition, all students must demonstrate English competency of READING LEVEL 4 and WRITING LEVEL 4, and Math competency of MATH LEVEL 4 prior to application.
2. Program qualifications include: (a) High school graduate or GED equivalent; (b) Be admitted to Delta College; (c) Provide transcripts from high school and other colleges attended.
3. Prerequisite qualifications are: Graduate of an accredited allied health program or completion of the following courses with a "B" (3.0) or better: BIO 140 or BIO 152 and BIO 153, HSC 105, any approved College Composition I course, ENG 113, COM 114 or SPH 114, PHY 101 or PHY 111. If you are an allied health program graduate but the program did not include college level physics, you will still be required to take PHY 101 or PHY 111 with a "B" (3.0) or better. Medical Radiography Physics will meet this requirement.
4. Students are strongly encourage to retake BIO 140 and HSC 105 (or equivalents) prior to entering the program if it has been more than 5 years since they took the course. Students will be required to retake BIO 140 and HSC 105 (or equivalents) to validate if it has been longer than 10 years since they originally took the course.
5. You must receive a grade of "C" or better in the POL, PSY, PHL, SOC and LW courses to earn the associate degree.
6. Basic computer literacy skills or CST 103 or CST 106 is required.
7. You can complete POL ---, PSY 211W, PHL 215W, and SOC 211 in the first semester of basic program requirements in order to maintain your full-time student status.
8. Other program requirements: (a) Current CPR for the Professional Rescuer certification is required for admission to the clinical sequence. CPR currency must be maintained throughout the program; (b) Submit a completed Student Physical Examination Form, which requires a negative TB test; (c) Submit evidence of Hepatitis B immunization or signed waiver form provided during orientation.
9. Certification may be delayed or denied depending on the history of criminal convictions. Questions regarding this issue may be directed to the ARDMS (American Registry of Diagnostic Medical Sonographers) at www.ardms.org or (301) 738-8401.
10. In addition to tuition, fees, and textbook costs, you must purchase uniforms, name tags, background check and clinical shoes; provide your transportation to clinical settings; pay for meals, parking fees, and any medical treatment which may become necessary.
11. All students will be required to undergo a background check prior to admittance to the DMS program and may be required to have a drug screen, dependent upon clinical site assignments. Students with a felony conviction will not be admitted to the DMS program. All other misdemeanor offenses must be 10 years or older for admittance to the program. Delta College cannot guarantee students with a positive background check the clinical site placement needed to meet program requirements. Thus, program completion may not be possible regardless of the length of time since conviction.
12. DMS program courses must be taken together in the sequence shown. Clinical education courses are conducted primarily during daytime hours; however, off-shifts (second and third shifts) may be assigned to meet course objectives.
13. You must achieve a "B" (3.0) minimum grade in each DMS course to be eligible to continue in and graduate from the DMS program. You must comply with all DMS program progression and retention policies (copies available from the Health Programs counselor or DMS program coordinator.)

14. Student clinical rotations will consist of two separate six-month placements. Many clinical sites are located outside the tri-city area and some are out of state. Students must be prepared to commute and relocate for at least one rotation.
15. All DMS students are expected to complete the ARDMS abdomen, obstetric/gynecology, and physics certifying boards. Students may complete the physics certifying exam after successful completion of DMS 105 and 115 prior to program completion.
16. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
17. Delta College reserves the right to modify graduation requirements.

Digital Film Production - Advanced Certificate

Program Code: CEA.35330

When you complete this certificate, you will have been introduced to many aspects of film production: film aesthetics, screenwriting, filming, and editing. The certificate can also prepare you for further film studies and might help you find work in the film industry. In addition, courses in the certificate also provide a foundation for work in video advertising, videography, and the production of training films.

Course	Credits	Course Title	Completed
EM 280	3	Digital Film Capstone	
EMB 151	3	Media Production I	
EM 180	3	Digital Cinematography for Film	
EMB 155	4	Media Production II	
ENG ---	3	Any Approved College Composition I Course **AND**	
ENG ---	3	Any Approved College Composition II Course	
		OR	
OAT 151	(3)	Business Communication I **AND**	
OAT 152	(3)	Business Communication II	
ENG 254	3	Creative Writing: Fiction	
ENG 258W	2	Introduction to Screenwriting	
IHU 226W	3	Introduction to Film **OR**	
LIT 226W	(3)	Introduction to Film	
	27	**SUBTOTAL**	

One of the following courses is also required:

Course	Credits	Course Title	Completed
EMB 175W	3	Genres in Film History	
ENG 259W	2	Advanced Screenwriting	
LIT 227W	3	The American Motion Picture	
PHL 225W	3	Philosophy and Film	
	2/3	**SUBTOTAL**	
	29/30	**TOTAL REQUIRED FOR ADVANCED CERTIFICATE**	

1. For students planning on transferring to a 4-year institution ENG 111 and ENG 112 are recommended.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Digital Film Production**

Digital Film Production

Total Program Cost (In District):	$4,344.00
On-Time Completion Rate:	NA
Program Job Placement Rate:	NA
Median Loan Dept:	NA

Dual Degrees - Automotive Service Technology - General Management Associate Degree

Program Code: DE.30844

Dual associate degrees are available in several Health curricula and the Automotive Service Technology curricula with the General Management Program. Generally, the requirements are completed simultaneously; however, the business courses normally will be completed prior to beginning your clinical sequence. Your diploma will list both the Associate in Applied Science Degree and the Associate in Business Studies Degree.

You will need to earn the required number of credits for your Associate in Applied Science Degree plus 24 credits from the courses below for the Associate in Business Studies Dual Degree. If you have earned a degree previously, you may not use courses from that degree to satisfy the requirements of a Dual Degree. It is possible that your previous degree may have included one or more of the required business courses. You do not have to retake such classes, but must replace them from the list of approved business courses under the dual degree to complete the additional 24 credits by instruction at Delta College.

Business Core Requirements for Degree

Course	Credits	Course Title	Completed
ACC 121	4	Accounting for Managers **OR**	
ACC 211	(4)	Principles of Accounting I	
CST 133W	4	Computer Concepts & Competencies **OR**	
CST 134	(3)	Micro Computers in Business Using MS Office	
MGT 153W	3	Introduction to Business	
MGT 245	3	Principles of Management	
OAT 151	3	Business Communication I	
	16/17	**SUBTOTAL**	

Select the remaining 7/8 credits for the degree from the following courses:

Electives (Choose 7/8 credits from the following)

Course	Credits	Course Title	Completed
ACC 212	4	Principles of Accounting II	
ACC 214	4	Microcomputer Accounting Applications	
CST 104	1	Microsoft Word Foundations	
CST 105	1	Outlook	
CST 151	2	Spreadsheet Fundamentals **OR**	
CST 155	(3)	Microsoft EXCEL	
CST 204	2	Microsoft Word: Intermediate	
CST 257	3	Database MS Access	
ECN 221W	4	Principles of Macroeconomics	
MGT 110	3	Business Mathematics	
MGT 145	3	Principles of Sales	
MGT 243	3	Principles of Marketing	
MGT 251W	3	Business Law I	
MGT 256	3	Human Resources Management I	
MGT 257W	3	Human Resources Management II	
OAT 152	3	Business Communication II	
PHL 203W	3	Business Ethics **OR**	
PHL 210W	(2)	Information Technology Ethics & Law	
	7/8	**SUBTOTAL**	
	24	**TOTAL CREDITS REQUIRED**	

1. In addition to completing all the courses for an approved applied science program (see above), you must complete a minimum of 24 credits by instruction at Delta College.

2. If a student has already earned credit in one or more of the required courses, the student will select other courses from the list of electives to total 24 credits.
3. Credits required for a dual degree vary according to the chosen curricula.
4. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
5. Delta College reserves the right to modify graduation requirements.

Dual Degrees - Dental Assisting - General Management Associate

Program Code: DE.30518

Dual associate degrees are available in several Health curricula and the Automotive Service Technology curricula with the General Management Program. Generally, the requirements are completed simultaneously; however, the business courses normally will be completed prior to beginning your clinical sequence. Your diploma will list both the Associate in Applied Science Degree and the Associate in Business Studies Degree.

You will need to earn the required number of credits for your Associate in Applied Science Degree plus 24 credits from the courses below for the Associate in Business Studies Dual Degree.

If you have earned a degree previously, you may not use courses from that degree to satisfy the requirements of a Dual Degree. It is possible that your previous degree may have included one or more of the required business courses. You do not have to retake such classes, but must replace them from the list of approved business courses under the dual degree to complete the additional 24 credits by instruction at Delta College.

Business Core Requirements for Degree

Course	Credits	Course Title	Completed
ACC 121	4	Accounting for Managers **OR**	
ACC 211	(4)	Principles of Accounting I	
CST 133W	4	Computer Concepts & Competencies **OR**	
CST 134	(3)	Micro Computers in Business Using MS Office	
MGT 153W	3	Introduction to Business	
MGT 245	3	Principles of Management	
OAT 151	3	Business Communication I	
	16/17	**SUBTOTAL**	

Electives (Choose 7/8 credits from the following courses)

Course	Credits	Course Title	Completed
ACC 212	4	Principles of Accounting II	
ACC 214	4	Microcomputer Accounting Applications	
CST 104	1	Microsoft Word Foundations	
CST 105	1	Outlook	
CST 151	2	Spreadsheet Fundamentals **OR**	
CST 155	(3)	Microsoft EXCEL	
CST 204	2	Microsoft Word: Intermediate	
CST 257	3	Database MS Access	
ECN 221W	4	Principles of Macroeconomics	
MGT 110	3	Business Mathematics	
MGT 145	3	Principles of Sales	
MGT 243	3	Principles of Marketing	
MGT 251W	3	Business Law I	
MGT 256	3	Human Resources Management I	
MGT 257W	3	Human Resources Management II	
OAT 152	3	Business Communication II	
PHL 203W	3	Business Ethics **OR**	
PHL 210W	(2)	Information Technology Ethics & Law	
	7/8	**SUBTOTAL**	
	24	**TOTAL CREDITS REQUIRED**	

1. In addition to completing all the courses for an approved applied science program (see above), you must complete a minimum of 24 credits by instruction at Delta College.

2. If a student has already earned credit in one or more of the required courses, the student will select other courses from the list of electives to total 24 credits.
3. Student re-entry procedures are printed in the handbook given to all clinical students.
4. Credits required for a dual degree vary according to the chosen curricula.
5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
6. Delta College reserves the right to modify graduation requirements.

Dual Degrees - Dental Hygiene - General Management Associate

Program Code: DE.30519

Dual associate degrees are available in several Health curricula and the Automotive Service Technology curricula with the General Management Program. Generally, the requirements are completed simultaneously; however, the business courses normally will be completed prior to beginning your clinical sequence. Your diploma will list both the Associate in Applied Science Degree and the Associate in Business Studies Degree.

You will need to earn the required number of credits for your Associate in Applied Science Degree plus 24 credits from the courses below for the Associate in Business Studies Dual Degree.

If you have earned a degree previously, you may not use courses from that degree to satisfy the requirements of a Dual Degree. It is possible that your previous degree may have included one or more of the required business courses. You do not have to retake such classes, but must replace them from the list of approved business courses under the dual degree to complete the additional 24 credits by instruction at Delta College.

Business Core Requirements for Degree

Course	Credits	Course Title	Completed
ACC 121	4	Accounting for Managers **OR**	
ACC 211	(4)	Principles of Accounting I	
CST 133W	4	Computer Concepts & Competencies **OR**	
CST 134	(3)	Micro Computers in Business Using MS Office	
MGT 153W	3	Introduction to Business	
MGT 245	3	Principles of Management	
OAT 151	3	Business Communication I	
	16/17	**SUBTOTAL**	

Electives (Choose 7/8 credits from the following)

Course	Credits	Course Title	Completed
ACC 212	4	Principles of Accounting II	
ACC 214	4	Microcomputer Accounting Applications	
CST 104	1	Microsoft Word Foundations	
CST 105	1	Outlook	
CST 151	2	Spreadsheet Fundamentals **OR**	
CST 155	(3)	Microsoft EXCEL	
CST 204	2	Microsoft Word: Intermediate	
CST 257	3	Database MS Access	
ECN 221W	4	Principles of Macroeconomics	
MGT 110	3	Business Mathematics	
MGT 145	3	Principles of Sales	
MGT 243	3	Principles of Marketing	
MGT 251W	3	Business Law I	
MGT 256	3	Human Resources Management I	
MGT 257W	3	Human Resources Management II	
OAT 152	3	Business Communication II	
PHL 203W	3	Business Ethics **OR**	
PHL 210W	(2)	Information Technology Ethics & Law	
	7/8	**SUBTOTAL**	
	24	**TOTAL CREDITS REQUIRED**	

1. In addition to completing all the courses for an approved applied science program (see above), you must complete a minimum of 24 credits by instruction at Delta College.

2. If a student has already earned credit in one or more of the required courses, the student will select other courses from the list of electives to total 24 credits.
3. Student re-entry procedures are printed in the handbook given to all clinical students.
4. Credits required for a dual degree vary according to the chosen curricula.
5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
6. Delta College reserves the right to modify graduation requirements.

Dual Degrees - Diagnostic Medical Sonography - General Management Associate Degree

Program Code: DE.30547

Dual associate degrees are available in several Health curricula and the Automotive Service Technology curricula with the General Management Program. Generally, the requirements are completed simultaneously; however, the business courses normally will be completed prior to beginning your clinical sequence. Your diploma will list both the Associate in Applied Science Degree and the Associate in Business Studies Degree.

You will need to earn the required number of credits for your Associate in Applied Science Degree plus 24 credits from the courses below for the Associate in Business Studies Dual Degree.

If you have earned a degree previously, you may not use courses from that degree to satisfy the requirements of a Dual Degree. It is possible that your previous degree may have included one or more of the required business courses. You do not have to retake such classes, but must replace them from the list of approved business courses under the dual degree to complete the additional 24 credits by instruction at Delta College.

Business Core Requirements for Degree

Course	Credits	Course Title	Completed
ACC 121	4	Accounting for Managers **OR**	
ACC 211	(4)	Principles of Accounting I	
CST 133W	4	Computer Concepts & Competencies **OR**	
CST 134	(3)	Micro Computers in Business Using MS Office	
MGT 153W	3	Introduction to Business	
MGT 245	3	Principles of Management	
OAT 151	3	Business Communication I	
	16/17	**SUBTOTAL**	

Electives (Choose 7/8 credits from the following)

Course	Credits	Course Title	Completed
ACC 212	4	Principles of Accounting II	
ACC 214	4	Microcomputer Accounting Applications	
CST 104	1	Microsoft Word Foundations	
CST 105	1	Outlook	
CST 151	2	Spreadsheet Fundamentals **OR**	
CST 155	(3)	Microsoft EXCEL	
CST 204	2	Microsoft Word: Intermediate	
CST 257	3	Database MS Access	
ECN 221W	4	Principles of Macroeconomics	
MGT 110	3	Business Mathematics	
MGT 145	3	Principles of Sales	
MGT 243	3	Principles of Marketing	
MGT 251W	3	Business Law I	
MGT 256	3	Human Resources Management I	
MGT 257W	3	Human Resources Management II	
OAT 152	3	Business Communication II	
PHL 203W	3	Business Ethics **OR**	
PHL 210W	(2)	Information Technology Ethics & Law	
	7/8	**SUBTOTAL**	
	24	**TOTAL CREDIDTS REQUIRED**	

1. In addition to completing all the courses for an approved applied science program (see above), you must complete a minimum of 24 credits by instruction at Delta College.

2. If a student has already earned credit in one or more of the required courses, the student will select other courses from the list of electives to total 24 credits.
3. Student re-entry procedures are printed in the handbook given to all clinical students.
4. Credits required for a dual degree vary according to the chosen curricula.
5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
6. Delta College reserves the right to modify graduation requirements.

Dual Degrees - Health Fitness Education And Promotion - General Management Associate Degree

Program Code: DE.30710

Dual associate degrees are available in several Health curricula and the Automotive Service Technology curricula with the General Management Program. Generally, the requirements are completed simultaneously; however, the business courses normally will be completed prior to beginning your clinical sequence. Your diploma will list both the Associate in Applied Science Degree and the Associate in Business Studies Degree.

You will need to earn the required number of credits for your Associate in Applied Science Degree plus 24 credits from the courses below for the Associate in Business Studies Dual Degree.

If you have earned a degree previously, you may not use courses from that degree to satisfy the requirements of a Dual Degree. It is possible that your previous degree may have included one or more of the required business courses. You do not have to retake such classes, but must replace them from the list of approved business courses under the dual degree to complete the additional 24 credits by instruction at Delta College.

Business Core Requirements for Degree

Course	Credits	Course Title	Completed
ACC 121	4	Accounting for Managers **OR**	
ACC 211	(4)	Principles of Accounting I	
CST 133W	4	Computer Concepts & Competencies **OR**	
CST 134	(3)	Micro Computers in Business Using MS Office	
MGT 153W	3	Introduction to Business	
MGT 245	3	Principles of Management	
OAT 151	3	Business Communication I	
	16/17	**SUBTOTAL**	

Electives (Choose 7/8 credits from the following)

Course	Credits	Course Title	Completed
ACC 212	4	Principles of Accounting II	
ACC 214	4	Microcomputer Accounting Applications	
CST 104	1	Microsoft Word Foundations	
CST 105	1	Outlook	
CST 151	2	Spreadsheet Fundamentals **OR**	
CST 155	(3)	Microsoft EXCEL	
CST 204	2	Microsoft Word: Intermediate	
CST 257	3	Database MS Access	
ECN 221W	4	Principles of Macroeconomics	
MGT 110	3	Business Mathematics	
MGT 145	3	Principles of Sales	
MGT 243	3	Principles of Marketing	
MGT 251W	3	Business Law I	
MGT 256	3	Human Resources Management I	
MGT 257W	3	Human Resources Management II	
OAT 152	3	Business Communication II	
PHL 203W	3	Business Ethics **OR**	
PHL 210W	(2)	Information Technology Ethics & Law	
	7/8	**SUBTOTAL**	
	24	**TOTAL CREDITS REQUIRED**	

1. In addition to completing all the courses for an approved applied science program (see above), you must complete a minimum of 24 credits by instruction at Delta College.

2. If a student has already earned credit in one or more of the required courses, the student will select other courses from the list of electives to total 24 credits.
3. Credits required for a dual degree vary according to the chosen curricula.
4. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
5. Delta College reserves the right to modify graduation requirements.

Dual Degrees - Nursing - General Management Associate Degree

Program Code: DE.30569

Dual associate degrees are available in several Health curricula and the Automotive Service Technology curricula with the General Management Program. Generally, the requirements are completed simultaneously; however, the business courses normally will be completed prior to beginning your clinical sequence. Your diploma will list both the Associate in Applied Science Degree and the Associate in Business Studies Degree.

You will need to earn the required number of credits for your Associate in Applied Science Degree plus 24 credits from the courses below for the Associate in Business Studies Dual Degree.

If you have earned a degree previously, you may not use courses from that degree to satisfy the requirements of a Dual Degree. It is possible that your previous degree may have included one or more of the required business courses. You do not have to retake such classes, but must replace them from the list of approved business courses under the dual degree to complete the additional 24 credits by instruction at Delta College.

Business Core Requirements for Degree

Course	Credits	Course Title	Completed
ACC 121	4	Accounting for Managers **OR**	
ACC 211	(4)	Principles of Accounting I	
CST 133W	4	Computer Concepts & Competencies **OR**	
CST 134	(3)	Micro Computers in Business Using MS Office	
MGT 153W	3	Introduction to Business	
MGT 245	3	Principles of Management	
OAT 151	3	Business Communication I	
	16/17	**SUBTOTAL**	

Electives (Choose 7/8 credits from the following)

Course	Credits	Course Title	Completed
ACC 212	4	Principles of Accounting II	
ACC 214	4	Microcomputer Accounting Applications	
CST 104	1	Microsoft Word Foundations	
CST 105	1	Outlook	
CST 151	2	Spreadsheet Fundamentals **OR**	
CST 155	(3)	Microsoft EXCEL	
CST 204	2	Microsoft Word: Intermediate	
CST 257	3	Database MS Access	
ECN 221W	4	Principles of Macroeconomics	
MGT 110	3	Business Mathematics	
MGT 145	3	Principles of Sales	
MGT 243	3	Principles of Marketing	
MGT 251W	3	Business Law I	
MGT 256	3	Human Resources Management I	
MGT 257W	3	Human Resources Management II	
OAT 152	3	Business Communication II	
PHL 203W	3	Business Ethics **OR**	
PHL 210W	(2)	Information Technology Ethics & Law	
	7/8	**SUBTOTAL**	
	24	**TOTAL CREDITS**	

1. In addition to completing all the courses for an approved applied science program (see above), you must complete a minimum of 24 credits by instruction at Delta College.
2. If a student has already earned credit in one or more of the required courses, the student will select other courses from the list of electives to total 24 credits.
3. Student re-entry procedures are printed in the handbook given to all clinical students.

4. Credits required for a dual degree vary according to the chosen curricula.
5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
6. Delta College reserves the right to modify graduation requirements.

Dual Degrees - Physical Therapist Assistant - General Management Associate Degree

Program Code: DE.30575

Dual associate degrees are available in several Health curricula and the Automotive Service Technology curricula with the General Management Program. Generally, the requirements are completed simultaneously; however, the business courses normally will be completed prior to beginning your clinical sequence. Your diploma will list both the Associate in Applied Science Degree and the Associate in Business Studies Degree.

You will need to earn the required number of credits for your Associate in Applied Science Degree plus 24 credits from the courses below for the Associate in Business Studies Dual Degree.

If you have earned a degree previously, you may not use courses from that degree to satisfy the requirements of a Dual Degree. It is possible that your previous degree may have included one or more of the required business courses. You do not have to retake such classes, but must replace them from the list of approved business courses under the dual degree to complete the additional 24 credits by instruction at Delta College.

Business Core Requirements for Degree

Course	Credits	Course Title	Completed
ACC 121	4	Accounting for Managers **OR**	
ACC 211	(4)	Principles of Accounting I	
CST 133W	4	Computer Concepts & Competencies **OR**	
CST 134	(3)	Micro Computers in Business Using MS Office	
MGT 153W	3	Introduction to Business	
MGT 245	3	Principles of Management	
OAT 151	3	Business Communication I	
	16/17	**SUBTOTAL**	

Electives (Choose 7/8 credits from the following)

Course	Credits	Course Title	Completed
ACC 212	4	Principles of Accounting II	
ACC 214	4	Microcomputer Accounting Applications	
CST 104	1	Microsoft Word Foundations	
CST 105	1	Outlook	
CST 151	2	Spreadsheet Fundamentals **OR**	
CST 155	(3)	Microsoft EXCEL	
CST 204	2	Microsoft Word: Intermediate	
CST 257	3	Database MS Access	
ECN 221W	4	Principles of Macroeconomics	
MGT 110	3	Business Mathematics	
MGT 145	3	Principles of Sales	
MGT 243	3	Principles of Marketing	
MGT 251W	3	Business Law I	
MGT 256	3	Human Resources Management I	
MGT 257W	3	Human Resources Management II	
OAT 152	3	Business Communication II	
PHL 203W	3	Business Ethics **OR**	
PHL 210W	(2)	Information Technology Ethics & Law	
	7/8	**SUBTOTAL**	
	24	**TOTAL CREDITS**	

1. In addition to completing all the courses for an approved applied science program (see above), you must complete a minimum of 24 credits by instruction at Delta College.

2. If a student has already earned credit in one or more of the required courses, the student will select other courses from the list of electives to total 24 credits.
3. Student re-entry procedures are printed in the handbook given to all clinical students.
4. Credits required for a dual degree vary according to the chosen curricula.
5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
6. Delta College reserves the right to modify graduation requirements.

Dual Degrees - Radiography - General Management Associate

Program Code: DE.30546

Dual associate degrees are available in several Health curricula and the Automotive Service Technology curricula with the General Management Program. Generally, the requirements are completed simultaneously; however, the business courses normally will be completed prior to beginning your clinical sequence. Your diploma will list both the Associate in Applied Science Degree and the Associate in Business Studies Degree.

You will need to earn the required number of credits for your Associate in Applied Science Degree plus 24 credits from the courses below for the Associate in Business Studies Dual Degree.

If you have earned a degree previously, you may not use courses from that degree to satisfy the requirements of a Dual Degree. It is possible that your previous degree may have included one or more of the required business courses. You do not have to retake such classes, but must replace them from the list of approved business courses under the dual degree to complete the additional 24 credits by instruction at Delta College.

Business Core Requirements for Degree

Course	Credits	Course Title	Completed
ACC 121	4	Accounting for Managers **OR**	
ACC 211	(4)	Principles of Accounting I	
CST 133W	4	Computer Concepts & Competencies **OR**	
CST 134	(3)	Micro Computers in Business Using MS Office	
MGT 153W	3	Introduction to Business	
MGT 245	3	Principles of Management	
OAT 151	3	Business Communication I	
	16/17	**SUBTOTAL**	

Electives (Choose 7/8 credits from the following)

Course	Credits	Course Title	Completed
ACC 212	4	Principles of Accounting II	
ACC 214	4	Microcomputer Accounting Applications	
CST 104	1	Microsoft Word Foundations	
CST 105	1	Outlook	
CST 151	2	Spreadsheet Fundamentals **OR**	
CST 155	(3)	Microsoft EXCEL	
CST 204	2	Microsoft Word: Intermediate	
CST 257	3	Database MS Access	
ECN 221W	4	Principles of Macroeconomics	
MGT 110	3	Business Mathematics	
MGT 145	3	Principles of Sales	
MGT 243	3	Principles of Marketing	
MGT 251W	3	Business Law I	
MGT 256	3	Human Resources Management I	
MGT 257W	3	Human Resources Management II	
OAT 152	3	Business Communication II	
PHL 203W	3	Business Ethics **OR**	
PHL 210W	(2)	Information Technology Ethics & Law	
	7/8	**SUBTOTAL**	
	24	**TOTAL CREDITS**	

1. In addition to completing all the courses for an approved applied science program (see above), you must complete a minimum of 24 credits by instruction at Delta College.

2. If a student has already earned credit in one or more of the required courses, the student will select other courses from the list of electives to total 24 credits.
3. Student re-entry procedures are printed in the handbook given to all clinical students.
4. Credits required for a dual degree vary according to the chosen curricula.
5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
6. Delta College reserves the right to modify graduation requirements.

Dual Degrees - Respiratory Care - General Management Associate

Program Code: DE.30578

Dual associate degrees are available in several Health curricula and the Automotive Service Technology curricula with the General Management Program. Generally, the requirements are completed simultaneously; however, the business courses normally will be completed prior to beginning your clinical sequence. Your diploma will list both the Associate in Applied Science Degree and the Associate in Business Studies Degree.

You will need to earn the required number of credits for your Associate in Applied Science Degree plus 24 credits from the courses below for the Associate in Business Studies Dual Degree.

If you have earned a degree previously, you may not use courses from that degree to satisfy the requirements of a Dual Degree. It is possible that your previous degree may have included one or more of the required business courses. You do not have to retake such classes, but must replace them from the list of approved business courses under the dual degree to complete the additional 24 credits by instruction at Delta College.

Business Core Requirements for Degree

Course	Credits	Course Title	Completed
ACC 121	4	Accounting for Managers **OR**	
ACC 211	(4)	Principles of Accounting I	
CST 133W	4	Computer Concepts & Competencies **OR**	
CST 134	(3)	Micro Computers in Business Using MS Office	
MGT 153W	3	Introduction to Business	
MGT 245	3	Principles of Management	
OAT 151	3	Business Communication I	
	16/17	**SUBTOTAL**	

Electives (Choose 7/8 credits from the following)

Course	Credits	Course Title	Completed
ACC 212	4	Principles of Accounting II	
ACC 214	4	Microcomputer Accounting Applications	
CST 104	1	Microsoft Word Foundations	
CST 105	1	Outlook	
CST 151	2	Spreadsheet Fundamentals **OR**	
CST 155	(3)	Microsoft EXCEL	
CST 204	2	Microsoft Word: Intermediate	
CST 257	3	Database MS Access	
ECN 221W	4	Principles of Macroeconomics	
MGT 110	3	Business Mathematics	
MGT 145	3	Principles of Sales	
MGT 243	3	Principles of Marketing	
MGT 251W	3	Business Law I	
MGT 256	3	Human Resources Management I	
MGT 257W	3	Human Resources Management II	
OAT 152	3	Business Communication II	
		OR	
PHL 203W	3	Business Ethics	
PHL 210W	(2)	Information Technology Ethics & Law	
	7/8	**SUBTOTAL**	
	24	**TOTAL CREDITS**	

1. In addition to completing all the courses for an approved applied science program (see above), you must complete a minimum of 24 credits by instruction at Delta College.

2. If a student has already earned credit in one or more of the required courses, the student will select other courses from the list of electives to total 24 credits.
3. Student re-entry procedures are printed in the handbook given to all clinical students.
4. Credits required for a dual degree vary according to the chosen curricula.
5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
6. Delta College reserves the right to modify graduation requirements.

Dual Degrees - Surgical Technology - General Management Associate Degree

Program Code: DE.30550

Dual associate degrees are available in several Health curricula and the Automotive Service Technology curricula with the General Management Program. Generally, the requirements are completed simultaneously; however, the business courses normally will be completed prior to beginning your clinical sequence. Your diploma will list both the Associate in Applied Science Degree and the Associate in Business Studies Degree.

You will need to earn the required number of credits for your Associate in Applied Science Degree plus 24 credits from the courses below for the Associate in Business Studies Dual Degree.

If you have earned a degree previously, you may not use courses from that degree to satisfy the requirements of a Dual Degree. It is possible that your previous degree may have included one or more of the required business courses. You do not have to retake such classes, but must replace them from the list of approved business courses under the dual degree to complete the additional 24 credits by instruction at Delta College.

Business Core Requirements for Degree

Course	Credits	Course Title	Completed
ACC 121	4	Accounting for Managers **OR**	
ACC 211	(4)	Principles of Accounting I	
CST 133W	4	Computer Concepts & Competencies **OR**	
CST 134	(3)	Micro Computers in Business Using MS Office	
MGT 153W	3	Introduction to Business	
MGT 245	3	Principles of Management	
OAT 151	3	Business Communication I	
	16/17	**SUBTOTAL**	

Electives (Choose 7/8 credits from the following)

Course	Credits	Course Title	Completed
ACC 212	4	Principles of Accounting II	
ACC 214	4	Microcomputer Accounting Applications	
CST 104	1	Microsoft Word Foundations	
CST 105	1	Outlook	
CST 151	2	Spreadsheet Fundamentals **OR**	
CST 155	(3)	Microsoft EXCEL	
CST 204	2	Microsoft Word: Intermediate	
CST 257	3	Database MS Access	
ECN 221W	4	Principles of Macroeconomics	
MGT 110	3	Business Mathematics	
MGT 145	3	Principles of Sales	
MGT 243	3	Principles of Marketing	
MGT 251W	3	Business Law I	
MGT 256	3	Human Resources Management I	
MGT 257W	3	Human Resources Management II	
OAT 152	3	Business Communication II	
PHL 203W	3	Business Ethics **OR**	
PHL 210W	(2)	Information Technology Ethics & Law	
	7/8	**SUBTOTAL**	
	24	**TOTAL CREDITS**	

1. In addition to completing all the courses for an approved applied science program (see above), you must complete a minimum of 24 credits by instruction at Delta College.

2. If a student has already earned credit in one or more of the required courses, the student will select other courses from the list of electives to total 24 credits.
3. Student re-entry procedures are printed in the handbook given to all clinical students.
4. Credits required for a dual degree vary according to the chosen curricula.
5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
6. Delta College reserves the right to modify graduation requirements.

Electrical Utility Substation Worker - Advanced Certificate

Program Code: CTA.35811

The degree program is designed to prepare you for jobs in the Electrical Utility field. The Electrical Utility Substation Advanced Certificate program trains you for the duties and tasks required to repair and maintain an electrical utility substation. Completion of this program may preempt apprenticeship hours in the Substation/Electrical Utility field.

Required Courses

Course	Credits	Course Title	Completed
COM 114W	3	Interpersonal Communication	
SKDR 101	3	Blueprint Reading	
SKEL 101	6	Basic Electronics	
SKEL 102	4	Industrial Electronics	
SKEL 104	2	Electric Substation Worker Orientation	
SKEL 111	3	Conventional Controls	
SKEL 121	5	Advanced Controls I	
SKEL 131	3	AC/DC Machinery	
SKMA 111	6	Applied Integrated Electrical Math I	
SKMA 112	3	Applied Integrated Electrical Mathematics II	
SKMA 113	3	Applied Integrated Electrical Math III	
SKMT 220	3	Hydraulics and Pneumatics I	
SKMT 161	2	Industrial Rigging and Safety	
SKTR 181	4	Machine Tools I	
SKWL 103	3	Introduction to Plasma, Carbon Arc, and Fuel Gas Cutting	
SKWL 104	3	Introduction to Shielded Metal Arc Welding	

56 TOTAL CREDITS

1. A grade of "C" (2.0) or higher is required in all courses for the certificate.
2. In addition to the program requirements, utility companies in general require that applicants have a valid driver's license and the ability to obtain a CDL license, pass a drug screening test, and not be a convicted felon. See http://www.michigan.gov/documents/cdlmanul_16090_7.pdf
3. Student is responsible for purchasing flame retardant smock, eyeglasses with shield, hardhat, and leather work boots for SKEL 104 orientation course.
4. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
5. Delta College reserves the right to modify graduation requirements.
6. If you plan to pursue an advanced degree, see pages ADVANVED_DEGREE_PAGES for special transfer agreements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Electrical Substation Worker Adv. Cert.**

Electrical Substation Worker Adv. Cert.

Total Program Cost (In District):	$7,939.00
On-Time Completion Rate:	NA
Program Job Placement Rate:	NA
Median Loan Dept:	NA

Electrical Utility Worker - Associate in Applied Science

Program Code: AAS.15813

The degree program is designed to prepare you for jobs in the Electrical Utility field. The Electrical Utility Substation Advanced Certificate program trains you for the duties and tasks required to repair and maintain an electrical utility substation. Completion of this program may preempt apprenticeship hours in the Substation/Electrical Utility field.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course **AND**	
ENG 113	3	Technical Communication	
		OR	
ENG ---	(3)	Any Approved College Composition I Course **AND**	
ENG ---	(3)	Any Approved College Composition II Course	
		OR	
OAT 151	(3)	Business Communication I **AND**	
OAT 152	(3)	Business Communication II	
LW 220W	1	Lifelong Wellness **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW 223W	(2)	Wellness in Technical Trades	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
POL ---	3/4	Any Approved American Government Requirement	
	11/12	**SUBTOTAL**	

Core Courses

Course	Credits	Course Title	Completed
COM 114W	3	Interpersonal Communication	
SKDR 101	3	Blueprint Reading	
SKEL 101	6	Basic Electronics	
SKEL 102	4	Industrial Electronics	
SKEL 104	2	Electric Substation Worker Orientation	
SKEL 111	3	Conventional Controls	
SKEL 121	5	Advanced Controls I	
SKEL 131	3	AC/DC Machinery	
SKMA 111	6	Applied Integrated Electrical Math I	
SKMA 112	3	Applied Integrated Electrical Mathematics II	
SKMA 113	3	Applied Integrated Electrical Math III	
SKMT 220	3	Hydraulics and Pneumatics I	
SKMT 161	2	Industrial Rigging and Safety	
SKTR 181	4	Machine Tools I	
SKWL 103	3	Introduction to Plasma, Carbon Arc, and Fuel Gas Cutting	
SKWL 104	3	Introduction to Shielded Metal Arc Welding	
	56	**SUBTOTAL**	
	67/68	**TOTAL CREDITS REQUIRED**	

1. A grade of "C" (2.0) or higher is required in all core courses.
2. ENG 113 is preferred but credit may be earned in other approved College Composition II courses.
3. In addition to the program requirements, utility companies in general require that applicants have a valid driver's license and the ability to obtain a CDL license, pass a drug screening test, and not be a convicted felon. See http://www.michigan.gov/documents/cdlmanul_16090_7.pdf
4. Student is responsible for purchasing flame retardant smock, eyeglasses with shield, hardhat, and leather work boots for the SKEL 104 orientation course.
5. The Lineworker portion of the Electrical Utility program was inactivated effective Spring 2011. Students meeting validation requirements, per the 2010/11 catalog, may be able to complete program requirements, Lineworker Level I, through transfer courses. Transfer credits are subject to program requirements as found on page 74 of the 2010/11 Delta College Catalog. Additionally, students seeking to complete this degree must also

fulfill all Basic Requirements found on page 114 of the 2010/11 Delta College Catalog. The 2010/11 Delta College Catalog is available for viewing at: www.Delta.edu/catalog. Students not maintaining continuous enrollment will need to meet with Counseling/Advising & Career Services to initiate a catalog year waiver prior to submitting a graduation application.

6. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
7. Delta College reserves the right to modify graduation requirements.

Electronic Media Broadcasting (EMB) - Associate in Applied Arts

Program Code: AAA.15340

The Delta College Electronic Media/Broadcasting program provides students with a broad range of traditional classroom and laboratory learning opportunities as well as hands on experience. The EMB curriculum is designed to provide well balanced instruction in the fields of broadcasting and multimedia production. Beginning with an exploration of the history of radio and television, students then study audio and video production, through which students will gain hands on experience in laboratory and real time operating conditions. The EMB program then concentrates on the growing and ever-changing fields of digital media productions and their practical applications. Students will utilize television production studios and computer labs to produce individual and group productions. The EMB program also offers students a chance to acquire professional experience while in school through internships with commercial radio and TV stations as well as practicum credit through WDCQ-TV/WDCP-TV and WUCX-FM, Delta College's Quality Public Television and Radio stations. Successful completion of the Electronic Media/Broadcasting program will provide students with the fundamental information and experience necessary for entry level positions in communication and information industries. The EMB degree will also provide a strong foundation for a student's further pursuit of a related undergraduate degree. Discussion regarding the best order for you to schedule the courses should be made with a Delta Electronic Media Broadcasting counselor. Check course descriptions for prerequisites. You must complete all required courses in this program.

General Education Requirements

Course	Credits	Course Title	Completed
COM 112W	3	Fundamentals of Oral Communication	
ENG ---	3/5	Any Approved College Composition I Course **AND**	
ENG ---	3/5	Any Approved College Composition II Course	
ENG 115	3	Mass Media	
ECN 221W	4	Principles of Macroeconomics	
LW ---	1	Any 1 Credit LW Course (As of fall 2007)	
		AND	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
PHL 205W	3	Media Ethics & Law	
POL ---	3/4	Any Approved American Government Requirement	
	24/29	**SUBTOTAL**	

Basic Program Requirements

Course	Credits	Course Title	Completed
EMB 140	3	Electronic Media History	
EMB 151	3	Media Production I	
EMB 152	2	Studio Productions	
EMB 153	3	Broadcast Performance	
EMB 154	2	Peripheral Multimedia Applications	
EMB 155	4	Media Production II	
EMB 211W	3	Writing for Broadcast & New Media **OR**	
ENG 116	(3)	News Writing	
EMB 227	3	Broadcast Sales **OR**	
MGT 143	(3)	Principles of Advertising	
EMB 255W	4	Media Production III	
EMB ---	1/3	Any Approved EMB Practicum or Internship	
	28/30	**SUBTOTAL**	

Approved EMB Practicums/Internships/Electives

Course	Credits	Course Title	Completed
EMB 141	2	Fundamentals of Audio Production	
EMB 161	2	Podcasting, Online, and Mobile Media	
EMB 175W	3	Genres in Film History	
EMB 275	3	DVD Design and Authoring	
EMB 279	3	Advanced Post Production	
EMB 281	1	Internship I	
EMB 282	2	Internship II	
EMB 283	3	Internship III	
EMB 284	2	Public Broadcasting Practicum I	
EMB 285	2	Public Broadcasting Practicum II	
PHL 225W	3	Philosophy and Film	
ART 271	3	Digital Imaging I	
	3/10		
	62	**TOTAL CREDITS REQUIRED FOR ASSOCIATES DEGREE**	

1. You must complete the prerequisite course EMB 155 before enrolling in EMB 275.
2. Based on available facilities and equipment, this program is considered a “limited” enrollment program.
3. If you are planning to transfer, please work closely with the Program Counselor.
4. File an application for an associate or dual degree and/or certificate with the Registrar’s Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
5. Delta College reserves the right to modify graduation requirements.
6. If you plan to pursue an advanced degree, see pages ADVANVED_DEGREE_PAGES for special transfer agreements.

Entrepreneurship - Certificate of Achievement

Program Code: CBZ.35263

This new program is designed specifically for you if you plan to own and manage your own business, or if you currently own a business and want to become more proficient with your skills.

Basic Program Requirements

Course	Credits	Course Title	Completed
ENT 101	3	Accounting for Entrepreneurs	_____
ENT 131W	3	Entrepreneurship/Small Business Management I	_____
ENT 132W	3	Entrepreneurship/Small Business Management II	_____
ENT 201	3	Financial Management for Entrepreneurs	_____
ENT 221W	3	Law for Entrepreneurs	_____
MGT 243	3	Principles of Marketing	_____

THIS CERTIFICATE IS PART OF A LADDERED PROGRAM. CREDITS EARNED MAY BE APPLIED TOWARDS COMPLETING THE MANAGEMENT-ENTREPRENEURSHIP/SMALL BUSINESS MANAGEMENT-ADVANCED CERTIFICATE

18 TOTAL CREDITS REQUIRED FOR CERTIFICATE

1. A minimum "C" (2.0) grade is required in each course for the certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Environmental Technology - Advanced Certificate

Program Code: CSA.35467

Successful completion of the program will prepare you for employment as a hazardous materials technician, safety technician, solid waste technician, recycling technician, or as a team member in environmental consulting firms. Skills and knowledge that you should possess as a result of completing the program include: understanding of the specific safety and environmental regulations related to work environment; familiarity with computers; basic understanding of chemical terminology; ability to read technical materials and translate what is read into action; ability to write comprehensible reports; ability to keep records; ability to make routine mathematical computations; understanding of how environmental regulations are formulated, and understanding of the interrelated nature of environmental problems.

Basic Program Requirements

Course	Credits	Course Title	Completed
BIO 110W	4	Environmental Science	
CHM 105W	5	Technical Chemistry I **AND**	
CHM 106W	5	Technical Chemistry II	
		OR	
CHM 111	(5)	General and Inorganic Chemistry I **AND**	
CHM 112	(5)	General and Inorganic Chemistry II	
ENG ---	3	Any Approved College Composition I Course	
ENG 113	3	Technical Communication	
ENV 100W	3	Environmental Regulations	
ENV 130W	1	Pollution Prevention	
ENV 151W	2.7	Hazwoper Training	
ENV 152	1.6	Emergency Response To Industrial Spills	
ENV 153	1.3	Confined Space Training	
ENV 154	0.4	Hazardous Materials Shipping And Handling	
PHY 101	4	Applied Physics	
	34	**TOTAL CREDITS**	

1. ENV 151, ENV 152, ENV 153, and ENV 154 are presented as a series of training modules which can be taken together or separate, in any order. It is recommended however that they be taken in sequence. All components are those required and detailed through OSHA other State and Federal regulations.
2. Electives: If you are considering transferring to a university, review the Associate in Science degree requirements in the catalog and see a counselor since requirements of various transfer schools differ.
3. Note that students should enroll in CHM 111 and 112 (in place of CHM 105/106) if transferring.
4. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
5. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Environmntl Tech Adv Cert**

Environmntl Tech Adv Cert

Total Program Cost (In District):	$4,919.20
On-Time Completion Rate:	NA
Program Job Placement Rate:	0.00%
Median Loan Dept:	NA

Environmental Technology - Associate in Applied Science

Program Code: AAS.15466

Successful completion of the program will prepare you for employment as a hazardous materials technician, safety technician, solid waste technician, recycling technician, or as a team member in environmental consulting firms. Skills and knowledge that you should possess as a result of completing the program include: understanding of the specific safety and environmental regulations related to work environment; familiarity with computers; basic understanding of chemical terminology; ability to read technical materials and translate what is read into action; ability to write comprehensible reports; ability to keep records; ability to make routine mathematical computations; understanding of how environmental regulations are formulated, and understanding of the interrelated nature of environmental problems.

General Education Courses

Course	Credits	Course Title	Completed
COM 112W	3	Fundamentals of Oral Communication **OR**	
COM 114W	(3)	Interpersonal Communication	
ENG ---	3	Any Approved College Composition I Course	
ENG 113	3	Technical Communication	
GLG 130	4	Environmental Geology (Recommended) **OR**	
GLG 111	(4)	Physical Geology	
LW ---	1	Any 1 Credit LW Course (As of fall 2007) **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
MTH ---	4	Any Approved Intermediate Algebra Course	
MTH 208W	3	Elementary Statistics	
POL ---	3/4	Any Approved American Government Requirement	
--- ---	3	Electives	
	28/29	**SUBTOTAL**	

Core Courses

Course	Credits	Course Title	Completed
BIO 110W	4	Environmental Science	
CHM 105W	5	Technical Chemistry I **AND**	
CHM 106W	5	Technical Chemistry II	
		OR	
CHM 111	(5)	General and Inorganic Chemistry I **AND**	
CHM 112	(5)	General and Inorganic Chemistry II	
CST 133W	4	Computer Concepts & Competencies	
ENV 100W	3	Environmental Regulations	
ENV 130W	1	Pollution Prevention	
ENV 151W	2.7	Hazwoper Training	
ENV 152	1.6	Emergency Response To Industrial Spills	
ENV 153	1.3	Confined Space Training	
ENV 154	0.4	Hazardous Materials Shipping And Handling	
CHM 230	4	Chemical Analysis/Instrumentation	
PHY 101	4	Applied Physics	
	36	**SUBTOTAL**	

Electives

Course	Credits	Course Title	Completed
BIO 116W	2	Winter Ecology	
BIO 219	2	Stream Ecology: Aquatic Macroinvertebrate Research	
BIO 123	2	Survey Of Michigan Plant Communities	
BIO 203W	4	General Microbiology	
ENG 112	3	College Composition II	
ENV 310W	3	Environmental Site Assessments	
ENV 320W	3	Environmental Management Systems	

64/65 TOTAL CREDITS

1. ENV 151, ENV 152, ENV 153, and ENV 154 are presented as a series of training modules which can be taken together or separate, in any order. It is recommended however that they be taken in sequence. All components are those required and detailed through OSHA other State and Federal regulations.
2. Electives: If you are considering transferring to a university, review the Associate in Science degree requirements in the catalog and see a counselor since requirements of various transfer schools differ.
3. Note that students should enroll in CHM 111 and 112 (in place of CHM 105/106) if transferring.
4. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
5. Delta College reserves the right to modify graduation requirements.

Fire Science Technology - Associate in Applied Science

Program Code: AAS.25731

This Associate degree program in Fire Science Technology is designed to provide vocational and technical skills which will provide you with educational credentials for employment or promotional opportunities. Students graduating may enroll in the 3+1 BBA Fire Administration Degree Program. Students may choose two of the options, which will appear on their degree. Students wishing more could complete a second degree with minimum of 24 additional credits.

Fire Science Technology: As a student you will embrace a wide range of knowledge leading to the control or prevention of fire and the handling of hazardous materials. This program is designed for the entering college student, the professional fire fighter and persons employed in a broad range of occupations related to fire science and safety. Technical competency prepares you for managerial and leadership positions in municipal, industrial or business entities.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course **AND**	
ENG ---	3	Any Approved College Composition II Course	
		OR	
ENG ---	(3)	Any Approved College Composition I Course **AND**	
ENG 113	(3)	Technical Communication	
LW ---	1	Any 1 Credit LW Course (As of fall 2007) **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW 223W	(2)	Wellness in Technical Trades	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
POL ---	3/4	Any Approved American Government Requirement	
PSY 101W	3	Applied Psychology	
		OR	
COM 112W	(3)	Fundamentals of Oral Communication	
		OR	
COM 114W	(3)	Interpersonal Communication	
	14/15	**SUBTOTAL**	

Fire Science Core Courses

Course	Credits	Course Title	Completed
FST 101W	3	Introduction to the Fire Service	
FST 102W	3	Fireground Tactics	
FST 103W	3	Building Construction	
FST 105W	3	Hazardous Materials/Emergency Responder	
FST 107W	3	Fire Protection Systems I	
FST 133W	3	Computer Aided Management Emergency Operations	
		OR	
CST 133W	(4)	Computer Concepts & Competencies	
FST 219	3	Fire Protection Hydraulics & Water Supply	
	21/22	**SUBTOTAL**	

Electives

Course	Credits	Course Title	Completed
--- ---	18	Approved Electives	
--- ---	9	General Electives	
	27	**SUBTOTAL**	

Approved Electives List

Course	Credits	Course Title	Completed
CJ 187W	3	Current Issues in Security	
COM 202W	3	Oral Communication for Managers	
FST 114	0.8	Firefighter Safety and Survival	
FST 115	0.8	Managing Company Tactical Operations: Preparing (MCTO:P)	
FST 116	0.8	Building Construction Principles	
FST 117	0.8	Managing Company Tactical Operations: Decision Making (MCTO:D)	
FST 118W	0.4	Records and Reports	
FST 120W	1	Fire Service Educational Methodology	
FST 213	0.8	Managing Company Tactical Operations: Tactics (MCTO:T)	
FST 214	0.8	Arson Detection for the First Responder	
FST 215	2	Introduction to Fire Inspection Principles and Practices (IFIPP)	
FST 216	0.8	Building Construction Non-Combustible/Fire Resistive	
FST 217	0.8	Fire Service Supervision: Personal Effectiveness	
FST 218	0.8	Fire Service Supervision: Team Effectiveness	
FST 219L	1	Fire Protection Hydraulics & Water Supply Lab	
FST 220	1	Strategy & Tactics for Initial Company Officer	
FST 240	2	Internship in Fire Science	
FST 301	1	Incident Command System	
FST 300W	3	Fire Officer III	
		OR	
FST 302	(1)	Leadership I Strategies for Company Success **AND**	
FST 303	(1)	Leadership II Strategies for Personal Success **AND**	
FST 304	(1)	Leadership III Strategies for Supervisory Success **AND**	
FST 305	(1)	Firefighter Health and Safety: Program Implementation & Management	
FST 306	1	Shaping the Future	
FST 307	1	Incident Safety Officer	
FST 308	1	Health and Safety Officer	
FST 332W	3	Advanced Fire Administration	
FST 334W	4	Fire Prevention Organization & Management	
FST 338W	3	Contemporary Issues In The Fire Service	
MGT 153W	3	Introduction to Business	
MGT 243	3	Principles of Marketing	
MGT 265	3	International Business	
PHL 203W	3	Business Ethics	

62 TOTAL CREDITS

1. Recommended Life Long Wellness (LWA) classes are LWA 111, 172, 173 or 174.
2. Approved Fire Science Technology (FST) electives can be any combination of required (non-elective) courses in the other options and those listed as approved electives.
3. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
4. Delta College reserves the right to modify graduation requirements.

Fire Science Technology - Emergency Medical Services - Associate in Applied Science

Program Code: AAS.25732

This Associate degree program in Fire Science Technology is designed to provide vocational and technical skills which will provide you with educational credentials for employment or promotional opportunities. Students graduating may enroll in the 3+1 BBA Fire Administration Degree Program. Students may choose two of the options, which will appear on their degree. Students wishing more could complete a second degree with minimum of 24 additional credits.

Emergency Medical Services: As an Emergency Medical Technician, you will provide basic emergency prehospital care to patients involved in accidents, injuries, or sudden illness. Places of employment include fire and police departments, rescue operations, ambulance services, hospitals, and industrial sites.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course **AND**	
ENG ---	3	Any Approved College Composition II Course	
		OR	
ENG ---	(3)	Any Approved College Composition I Course **AND**	
ENG 113	(3)	Technical Communication	
LW ---	1	Any 1 Credit LW Course (As of fall 2007) **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW 223W	(2)	Wellness in Technical Trades	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
POL ---	3/4	Any Approved American Government Requirement	
PSY 101W	3	Applied Psychology	
		OR	
COM 112W	(3)	Fundamentals of Oral Communication	
		OR	
COM 114W	(3)	Interpersonal Communication	
	14/15	**SUBTOTAL**	

Core Courses

Course	Credits	Course Title	Completed
FST 101W	3	Introduction to the Fire Service	
FST 102W	3	Fireground Tactics	
FST 103W	3	Building Construction	
FST 105W	3	Hazardous Materials/Emergency Responder	
FST 107W	3	Fire Protection Systems I	
FST 133W	3	Computer Aided Management Emergency Operations	
		OR	
CST 133W	(4)	Computer Concepts & Competencies	
FST 219	3	Fire Protection Hydraulics & Water Supply	
	21/22	**SUBTOTAL**	

Emergency Medical Services

Course	Credits	Course Title	Completed
EMS 110	4	Basic Emergency Medical Technician I	
EMS 111	4	Basic Emergency Medical Technician II	
EMS 112	2	Basic Emergency Medical Technician III	
EMS 113	2	Basic EMT Field Experience	
FST 301	1	Incident Command System	
--- ---	6	Approved Electives	
--- ---	8	General Electives	
	27	**SUBTOTAL**	

Approved Electives

Course	Credits	Course Title	Completed
CJ 187W	3	Current Issues in Security	
COM 202W	3	Oral Communication for Managers	
FST 114	0.8	Firefighter Safety and Survival	
FST 115	0.8	Managing Company Tactical Operations: Preparing (MCTO:P)	
FST 116	0.8	Building Construction Principles	
FST 117	0.8	Managing Company Tactical Operations:	
FST 118W	0.4	Records and Reports	
FST 120W	1	Fire Service Educational Methodology	
FST 213	0.8	Managing Company Tactical Operations: Tactics (MCTO:T)	
FST 214	0.8	Arson Detection for the First Responder	
FST 215	2	Introduction to Fire Inspection Principles and Practices (IFIPP)	
FST 216	0.8	Building Construction Non-Combustible/Fire Resistive	
FST 217	0.8	Fire Service Supervision: Personal Effectiveness	
FST 218	0.8	Fire Service Supervision: Team Effectiveness	
FST 219L	1	Fire Protection Hydraulics & Water Supply Lab	
FST 220	1	Strategy & Tactics for Initial Company Officer	
FST 240	2	Internship in Fire Science	
FST 301	1	Incident Command System	
FST 300W	3	Fire Officer III	
		OR	
FST 302	(1)	Leadership I Strategies for Company Success **AND**	
FST 303	(1)	Leadership II Strategies for Personal Success **AND**	
FST 304	(1)	Leadership III Strategies for Supervisory Success **AND**	
FST 305	(1)	Firefighter Health and Safety: Program Implementation & Management	
FST 306	1	Shaping the Future	
FST 307	1	Incident Safety Officer	
FST 308	1	Health and Safety Officer	
FST 332W	3	Advanced Fire Administration	
FST 334W	4	Fire Prevention Organization & Management	
FST 338W	3	Contemporary Issues In The Fire Service	
MGT 153W	3	Introduction to Business	
MGT 243	3	Principles of Marketing	
MGT 265	3	International Business	
PHL 203W	3	Business Ethics	
	62	**TOTAL CREDITS**	

1. Recommended Life Long Wellness (LWA) classes are LWA 111, 172, 173 or 174.

2. Approved Fire Science Technology (FST) electives can be any combination of required (non-elective) courses in the other options and those listed as approved electives.
3. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
4. Delta College reserves the right to modify graduation requirements.

Fire Science Technology - Fire Fighter Technician - Associate in Applied Science

Program Code: AAS.25736

This Associate degree program in Fire Science Technology is designed to provide vocational and technical skills which will provide you with educational credentials for employment or promotional opportunities. Students graduating may enroll in the 3+1 BBA Fire Administration Degree Program. Students may choose two of the options, which will appear on their degree. Students wishing more could complete a second degree with minimum of 24 additional credits.

Fire Fighter Technician: As a Fire Fighter, you will respond to emergency calls, control and extinguish fires, mitigate hazards, protect life and property, and maintain equipment. You will be responsible for proper use and maintenance of equipment, educating the public, responding to emergencies and developing pre-incident plans to protect the community against loss of life and property.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course **AND**	
ENG ---	3	Any Approved College Composition II Course	
		OR	
ENG ---	(3)	Any Approved College Composition I Course **AND**	
ENG 113	(3)	Technical Communication	
LWA ---	1	Any 1 Credit LWA Course **AND**	
LW ---	1	Any 1 Credit LW Course (As of fall 2007)	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
		OR	
LW 223W	(2)	Wellness in Technical Trades	
POL ---	3/4	Any Approved American Government Requirement	
PSY 101W	3	Applied Psychology	
		OR	
COM 112W	(3)	Fundamentals of Oral Communication	
		OR	
COM 114W	(3)	Interpersonal Communication	
	14/15	**SUBTOTAL**	

Fire Science Core Courses

Course	Credits	Course Title	Completed
FST 101W	3	Introduction to the Fire Service	
FST 102W	3	Fireground Tactics	
FST 103W	3	Building Construction	
FST 105W	3	Hazardous Materials/Emergency Responder	
FST 107W	3	Fire Protection Systems I	
FST 133W	3	Computer Aided Management Emergency Operations	
		OR	
CST 133W	(4)	Computer Concepts & Competencies	
FST 219	3	Fire Protection Hydraulics & Water Supply	
	21/22	**SUBTOTAL**	

Fire Fighter Technician Option

Course	Credits	Course Title	Completed
FST 111	6	Fire Fighter IA	
FST 112	6	Fire Fighter IB	
FST 211	4	Fire Fighter II	
FST 301	1	Incident Command System	
--- ---	6	Approved Electives	
--- ---	4	General Electives	
	27	**SUBTOTAL**	

Approved Electives

Course	Credits	Course Title	Completed
CJ 187W	3	Current Issues in Security	
COM 202W	3	Oral Communication for Managers	
FST 114	0.8	Firefighter Safety and Survival	
FST 115	0.8	Managing Company Tactical Operations: Preparing (MCTO:P)	
FST 116	0.8	Building Construction Principles	
FST 117	0.8	Managing Company Tactical Operations:	
FST 118W	0.4	Records and Reports	
FST 120W	1	Fire Service Educational Methodology	
FST 213	0.8	Managing Company Tactical Operations: Tactics (MCTO:T)	
FST 214	0.8	Arson Detection for the First Responder	
FST 215	2	Introduction to Fire Inspection Principles and Practices (IFIPP)	
FST 216	0.8	Building Construction Non-Combustible/Fire Resistive	
FST 217	0.8	Fire Service Supervision: Personal Effectiveness	
FST 218	0.8	Fire Service Supervision: Team Effectiveness	
FST 219L	1	Fire Protection Hydraulics & Water Supply Lab	
FST 220	1	Strategy & Tactics for Initial Company Officer	
FST 240	2	Internship in Fire Science	
FST 301	1	Incident Command System	
FST 300W	3	Fire Officer III	
		OR	
FST 302	(1)	Leadership I Strategies for Company Success **AND**	
FST 303	(1)	Leadership II Strategies for Personal Success **AND**	
FST 304	(1)	Leadership III Strategies for Supervisory Success **AND**	
FST 305	(1)	Firefighter Health and Safety: Program Implementation & Management	
FST 306	1	Shaping the Future	
FST 307	1	Incident Safety Officer	
FST 308	1	Health and Safety Officer	
FST 332W	3	Advanced Fire Administration	
FST 334W	4	Fire Prevention Organization & Management	
FST 338W	3	Contemporary Issues In The Fire Service	
MGT 153W	3	Introduction to Business	
MGT 243	3	Principles of Marketing	
MGT 265	3	International Business	
PHL 203W	3	Business Ethics	
	62	**TOTAL CREDITS**	

1. Recommended Life Long Wellness (LWA) classes are LWA 111, 172, 173 or 174.
2. Approved Fire Science Technology (FST) electives can be any combination of required (non-elective) courses in the other options and those listed as approved electives.

3. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
4. Delta College reserves the right to modify graduation requirements.

Fire Science Technology - Fire & Industrial Loss Prevention Officer - Advanced Certificate

Program Code: CTA.35732

As a student you will embrace a wide range of knowledge leading to the control or prevention of fire and the handling of hazardous materials. This program is designed for the entering college student, the professional fire fighter and persons employed in a broad range of occupations related to fire science and safety. Technical competency prepares you for managerial and leadership positions in municipal, industrial or business entities.

Fire & Industrial Loss Prevention Officer: As a loss prevention officer you will provide emergency response and security for sites including: medical, hazardous materials, fire, atmospheric sampling, and other duties. In addition, team members conduct audits on lockout tag-out operations, safe work permits, fire inspections, setting up confined space entries, establishing tie off points for fall protection, etc. You can take additional courses to obtain associate and baccalaureate degrees.

Fire & Industrial Loss Prevention Officer

Course	Credits	Course Title	Completed
CJ 182W	3	Introduction to Security	
COM 114W	3	Interpersonal Communication	
EMS 110	4	Basic Emergency Medical Technician I	
EMS 111	4	Basic Emergency Medical Technician II	
EMS 112	2	Basic Emergency Medical Technician III	
EMS 113	2	Basic EMT Field Experience	
ENG ---	3	Any Approved College Composition I Course	
FST 105W	3	Hazardous Materials/Emergency Responder	
FST 111	6	Fire Fighter IA	
FST 112	6	Fire Fighter IB	
MIT 118	2	Safety Practices and Procedures	

38 TOTAL CREDITS

1. * A “C” (2.0) minimum grade is required in all courses except COM and ENG.
2. File an application for an associate or dual degree and/or certificate with the Registrar’s Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.
4. If you plan to pursue an advanced degree, see pages ADVANVED_DEGREE_PAGES for special transfer agreements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Fire & Industrial Loss Prevention Officer**

Fire & Industrial Loss Prevention Officer

Total Program Cost (In District):	$5,494.40
On-Time Completion Rate:	NA
Program Job Placement Rate:	100.00%
Median Loan Dept:	NA

Fire Science Technology - Fire Investigation-Prevention - Associate in Applied Science

Program Code: AAS.25734

This Associate degree program in Fire Science Technology is designed to provide vocational and technical skills which will provide you with educational credentials for employment or promotional opportunities. Students graduating may enroll in the 3+1 BBA Fire Administration Degree Program. Students may choose two of the options, which will appear on their degree. Students wishing more could complete a second degree with minimum of 24 additional credits.

Fire Investigation/Prevention: As a Fire Safety Inspector, you will be involved in education, enforcement, engineering and fire investigation. Your work will involve fire safety education, inspecting and enforcing fire codes, plan review, testing of fire protection systems, maintaining exitways, inspecting flammable liquid storage, determining cause and origin of fires and preserving evidence, and testifying in court cases.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course **AND**	
ENG ---	3	Any Approved College Composition II Course	
		OR	
ENG ---	(3)	Any Approved College Composition I Course **AND**	
ENG 113	(3)	Technical Communication	
LW ---	1	Any 1 Credit LW Course (As of fall 2007) **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
		OR	
LW 223W	(2)	Wellness in Technical Trades	
POL ---	3/4	Any Approved American Government Requirement	
PSY 101W	3	Applied Psychology	
		OR	
COM 112W	(3)	Fundamentals of Oral Communication	
		OR	
COM 114W	(3)	Interpersonal Communication	
	14/15	**SUBTOTAL**	

Fire Science Core Courses

Course	Credits	Course Title	Completed
FST 101W	3	Introduction to the Fire Service	
FST 102W	3	Fireground Tactics	
FST 103W	3	Building Construction	
FST 105W	3	Hazardous Materials/Emergency Responder	
FST 107W	3	Fire Protection Systems I	
FST 133W	3	Computer Aided Management Emergency Operations	
		OR	
CST 133W	(4)	Computer Concepts & Competencies	
FST 219	3	Fire Protection Hydraulics & Water Supply	
	21/22	**SUBTOTAL**	

Fire Investigation/Prevention Courses

Course	Credits	Course Title	Completed
FST 104W	3	Arson Awareness	
FST 205W	3	Hazardous Materials/Emergency Operations	

FST 206	4	Confined Space Management & Rescue	_____
		OR	
FST 207W	(3)	Fire Protection Systems II	_____
FST 224W	3	Fire Investigation	_____
		OR	
CJ 210W	(3)	Introduction to Criminal Investigation	_____
FST 230	3	Fire Safety Education	_____
FST 231	3	Fire Service Law	_____
--- ---	6	Approved Electives	_____
--- ---	5/6	General Electives	_____
	29/31	**SUBTOTAL**	

Approved Electives

Course	Credits	Course Title	Completed
CJ 187W	3	Current Issues in Security	_____
COM 202W	3	Oral Communication for Managers	_____
FST 114	0.8	Firefighter Safety and Survival	_____
FST 115	0.8	Managing Company Tactical Operations: Preparing (MCTO:P)	_____
FST 116	0.8	Building Construction Principles	_____
FST 117	0.8	Managing Company Tactical Operations:	_____
FST 118W	0.4	Records and Reports	_____
FST 120W	1	Fire Service Educational Methodology	_____
FST 213	0.8	Managing Company Tactical Operations: Tactics (MCTO:T)	_____
FST 214	0.8	Arson Detection for the First Responder	_____
FST 215	2	Introduction to Fire Inspection Principles and Practices (IFIPP)	_____
FST 216	0.8	Building Construction Non-Combustible/Fire Resistive	_____
FST 217	0.8	Fire Service Supervision: Personal Effectiveness	_____
FST 218	0.8	Fire Service Supervision: Team Effectiveness	_____
FST 219L	1	Fire Protection Hydraulics & Water Supply Lab	_____
FST 220	1	Strategy & Tactics for Initial Company Officer	_____
FST 240	2	Internship in Fire Science	_____
FST 301	1	Incident Command System	_____
FST 300W	3	Fire Officer III	_____
		OR	
FST 302	(1)	Leadership I Strategies for Company Success **AND**	_____
FST 303	(1)	Leadership II Strategies for Personal Success **AND**	_____
FST 304	(1)	Leadership III Strategies for Supervisory Success **AND**	_____
FST 305	(1)	Firefighter Health and Safety: Program Implementation & Management	_____

FST 306	1	Shaping the Future	_____
FST 307	1	Incident Safety Officer	_____
FST 308	1	Health and Safety Officer	_____
FST 332W	3	Advanced Fire Administration	_____
FST 334W	4	Fire Prevention Organization & Management	_____
FST 338W	3	Contemporary Issues In The Fire Service	_____
MGT 153W	3	Introduction to Business	_____
MGT 243	3	Principles of Marketing	_____
MGT 265	3	International Business	_____
PHL 203W	3	Business Ethics	_____

62 TOTAL CREDITS REQUIRED FOR ASSOCITATE DEGREE

1. Recommended Life Long Wellness (LWA) classes are LWA 111, 172, 173 or 174.
2. Approved Fire Science Technology (FST) electives can be any combination of required (non-elective) courses in the other options and those listed as approved electives.
3. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
4. Delta College reserves the right to modify graduation requirements.

Fire Science Technology - Industrial-Commercial Security and Safety - Associate in Applied Science

Program Code: AAS.25733

This Associate degree program in Fire Science Technology is designed to provide vocational and technical skills which will provide you with educational credentials for employment or promotional opportunities. Students graduating may enroll in the 3+1 BBA Fire Administration Degree Program. Students may choose two of the options, which will appear on their degree. Students wishing more could complete a second degree with minimum of 24 additional credits.

Industrial/Commercial Security and Safety: You will perform inspections of industrial and commercial buildings to detect fire and safety hazards and make recommendations for improvements for loss prevention management. Your duties will include examining interiors and exteriors of industrial settings for violation of federal, state and local requirements.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course **AND**	
ENG ---	3	Any Approved College Composition II Course	
		OR	
ENG ---	(3)	Any Approved College Composition I Course **AND**	
ENG 113	(3)	Technical Communication	
LW ---	1	Any 1 Credit LW Course (As of fall 2007) **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
		OR	
LW 223W	(2)	Wellness in Technical Trades	
POL ---	3/4	Any Approved American Government Requirement	
PSY 101W	3	Applied Psychology	
		OR	
COM 112W	(3)	Fundamentals of Oral Communication	
		OR	
COM 114W	(3)	Interpersonal Communication	
	14/15	**SUBTOTAL**	

Fire Science Core Courses

Course	Credits	Course Title	Completed
FST 101W	3	Introduction to the Fire Service	
FST 102W	3	Fireground Tactics	
FST 103W	3	Building Construction	
FST 105W	3	Hazardous Materials/Emergency Responder	
FST 107W	3	Fire Protection Systems I	
FST 133W	3	Computer Aided Management Emergency Operations	
		OR	
CST 133W	(4)	Computer Concepts & Competencies	
FST 219	3	Fire Protection Hydraulics & Water Supply	
	21/22	**SUBTOTAL**	

Industrial/Commercial Security and Safety Option

Course	Credits	Course Title	Completed
CJ 182W	3	Introduction to Security	
FST 205W	3	Hazardous Materials/Emergency Operations	

FST 206	4	Confined Space Management & Rescue	_____
		OR	
FST 207W	(3)	Fire Protection Systems II	_____
FST 231	3	Fire Service Law	_____
MIT 118	2	Safety Practices and Procedures	_____
--- ---	6	Approved Electives	_____
--- ---	6/7	General Electives	_____
	26/28	**SUBTOTAL**	

Approved Electives

Course	Credits	Course Title	Completed
CJ 187W	3	Current Issues in Security	_____
COM 202W	3	Oral Communication for Managers	_____
FST 114	0.8	Firefighter Safety and Survival	_____
FST 115	0.8	Managing Company Tactical Operations: Preparing (MCTO:P)	_____
FST 116	0.8	Building Construction Principles	_____
FST 117	0.8	Managing Company Tactical Operations:	_____
FST 118W	0.4	Records and Reports	_____
FST 120W	1	Fire Service Educational Methodology	_____
FST 213	0.8	Managing Company Tactical Operations: Tactics (MCTO:T)	_____
FST 214	0.8	Arson Detection for the First Responder	_____
FST 215	2	Introduction to Fire Inspection Principles and Practices (IFIPP)	_____
FST 216	0.8	Building Construction Non-Combustible/Fire Resistive	_____
FST 217	0.8	Fire Service Supervision: Personal Effectiveness	_____
FST 218	0.8	Fire Service Supervision: Team Effectiveness	_____
FST 219L	1	Fire Protection Hydraulics & Water Supply Lab	_____
FST 220	1	Strategy & Tactics for Initial Company Officer	_____
FST 240	2	Internship in Fire Science	_____
FST 301	1	Incident Command System	_____
FST 300W	3	Fire Officer III	_____
		OR	
FST 302	(1)	Leadership I Strategies for Company Success **AND**	_____
FST 303	(1)	Leadership II Strategies for Personal Success **AND**	_____
FST 304	(1)	Leadership III Strategies for Supervisory Success **AND**	_____
FST 305	(1)	Firefighter Health and Safety: Program Implementation & Management	_____
FST 306	1	Shaping the Future	_____
FST 307	1	Incident Safety Officer	_____
FST 308	1	Health and Safety Officer	_____
FST 332W	3	Advanced Fire Administration	_____
FST 334W	4	Fire Prevention Organization & Management	_____
FST 338W	3	Contemporary Issues In The Fire Service	_____
MGT 153W	3	Introduction to Business	_____
MGT 243	3	Principles of Marketing	_____
MGT 265	3	International Business	_____
PHL 203W	3	Business Ethics	_____
	62	**TOTAL CREDITS**	

1. A “C” (2.0) minimum grade is required in Core and Approved Elective courses for degree.
2. Recommended Life Long Wellness (LWA) classes are LWA 111, 172, 173 or 174.
3. Approved Fire Science Technology (FST) electives can be any combination of required (non-elective) courses in the other options and those listed as approved electives.

4. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
5. Delta College reserves the right to modify graduation requirements.

Fire Science Technology - Leadership and Training - Associate in Applied Science

Program Code: AAS.25735

This Associate degree program in Fire Science Technology is designed to provide vocational and technical skills which will provide you with educational credentials for employment or promotional opportunities. Students graduating may enroll in the 3+1 BBA Fire Administration Degree Program. Students may choose two of the options, which will appear on their degree. Students wishing more could complete a second degree with minimum of 24 additional credits.

Leadership & Training: You will provide the command and educational functions for public or private entities. Responsibilities include all major functions at emergency scenes, training of personnel, safety and overall management of resources.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course **AND**	
ENG ---	3	Any Approved College Composition II Course	
		OR	
ENG ---	(3)	Any Approved College Composition I Course **AND**	
ENG 113	(3)	Technical Communication	
LW ---	1	Any 1 Credit LW Course (As of fall 2007) **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
LW 223W	(2)	Wellness in Technical Trades	
POL ---	3/4	Any Approved American Government Requirement	
PSY 101W	3	Applied Psychology	
		OR	
COM 112W	(3)	Fundamentals of Oral Communication	
		OR	
COM 114W	(3)	Interpersonal Communication	
	14/15	**SUBTOTAL**	

Fire Science Core Courses

Course	Credits	Course Title	Completed
FST 101W	3	Introduction to the Fire Service	
FST 102W	3	Fireground Tactics	
FST 103W	3	Building Construction	
FST 105W	3	Hazardous Materials/Emergency Responder	
FST 107W	3	Fire Protection Systems I	
FST 133W	3	Computer Aided Management Emergency Operations	
		OR	
CST 133W	(4)	Computer Concepts & Competencies	
FST 219	3	Fire Protection Hydraulics & Water Supply	
	21/22	**SUBTOTAL**	

Leadership & Training

Course	Credits	Course Title	Completed
FST 104W	3	Arson Awareness	
		OR	
FST 230	(3)	Fire Safety Education	
FST 203W	3	Fireground Management	
		OR	

MGT 245	(3)	Principles of Management	
FST 204	3	Fire Service Instructional Methodology	
FST 206	4	Confined Space Management & Rescue	
		OR	
FST 280W	(4)	Company Officer I/II	
FST 231	3	Fire Service Law	
--- ---	6	Approved Electives	
--- ---	5/6	General Electives	
	27/28	**SUBTOTAL**	

Approved Electives

Course	Credits	Course Title	Completed
CJ 187W	3	Current Issues in Security	
COM 202W	3	Oral Communication for Managers	
FST 114	0.8	Firefighter Safety and Survival	
FST 115	0.8	Managing Company Tactical Operations: Preparing (MCTO:P)	
FST 116	0.8	Building Construction Principles	
FST 117	0.8	Managing Company Tactical Operations:	
FST 118W	0.4	Records and Reports	
FST 120W	1	Fire Service Educational Methodology	
FST 213	0.8	Managing Company Tactical Operations: Tactics (MCTO:T)	
FST 214	0.8	Arson Detection for the First Responder	
FST 215	2	Introduction to Fire Inspection Principles and Practices (IFIPP)	
FST 216	0.8	Building Construction Non-Combustible/Fire Resistive	
FST 217	0.8	Fire Service Supervision: Personal Effectiveness	
FST 218	0.8	Fire Service Supervision: Team Effectiveness	
FST 219L	1	Fire Protection Hydraulics & Water Supply Lab	
FST 220	1	Strategy & Tactics for Initial Company Officer	
FST 240	2	Internship in Fire Science	
FST 301	1	Incident Command System	
FST 300W	3	Fire Officer III	
		OR	
FST 302	(1)	Leadership I Strategies for Company Success **AND**	
FST 303	(1)	Leadership II Strategies for Personal Success **AND**	
FST 304	(1)	Leadership III Strategies for Supervisory Success **AND**	
FST 305	(1)	Firefighter Health and Safety: Program Implementation & Management	
FST 306	1	Shaping the Future	
FST 307	1	Incident Safety Officer	
FST 308	1	Health and Safety Officer	
FST 332W	3	Advanced Fire Administration	
FST 334W	4	Fire Prevention Organization & Management	
FST 338W	3	Contemporary Issues In The Fire Service	
MGT 153W	3	Introduction to Business	
MGT 243	3	Principles of Marketing	
MGT 265	3	International Business	
PHL 203W	3	Business Ethics	
	62	**TOTAL CREDITS**	

1. A “C” (2.0) minimum grade is required in Core and Approved Elective courses for degree.

2. Recommended Life Long Wellness (LWA) classes are LWA 111, 172, 173 or 174.
3. Approved Fire Science Technology (FST) electives can be any combination of required (non-elective) courses in the other options and those listed as approved electives.
4. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
5. Delta College reserves the right to modify graduation requirements.

Global Peace Studies - Certificate of Achievement

Program Code: CSZ.35400

This certificate begins to prepare students to understand the complexity of global issues and become agents of positive change. Students will examine factors that influence peace and conflict, ecological sustainability and social and economic justice in our world. Students will broaden their knowledge base but also develop cross-cultural understanding and skills in community building, conflict mediation and solution creation that can be applied at the individual, local, and global levels.

Core Courses

Course	Credits	Course Title	Completed
IHU 120W	3	Introduction to Global Peace Studies **OR**	
SSI 120W	(3)	Introduction to Global Peace Studies	
IHU 240W	3	Leadership for Positive Change **OR**	
SSI 240W	(3)	Leadership for Positive Change	
POL 225W	3	World Politics	
	9	**TOTAL CREDITS**	

1. A grade of "C" (2.0) or higher is required in all courses for the certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.
4. If you plan to pursue an advanced degree, see pages ADVANVED_DEGREE_PAGES for special transfer agreements.

Global Peace Studies - Associate in Arts

Program Code: AA.40000

This degree prepares students to understand the complexity of global issues and become agents of positive change. Students will examine factors that influence peace and conflict, ecological sustainability and social and economic justice in our world. Students will broaden their knowledge base but also develop cross-cultural understanding and skills in community building, conflict mediation and solution creation that can be applied at the individual, local, and global levels. Students must take 8-12 hours within their selected Track.
Track 1: International Business (2+2 Transfer) focuses on the global business environment, including trade, finance, law, marketing, management, culture, and comparative economic systems.
Track 2: Global Environment (2+2 Transfer) focuses on factors influencing environmental transformation and exploitation, and explores solutions to environmental problems.
Track 3: Human Services/Social Justice (2+2 Transfer) focuses on obtaining the knowledge and skill to identify and meet human needs in a variety of social and cultural settings.
Track 4: International Relations (2+2 Transfer) focuses on exploring the sources of international conflict and the necessary conditions for enhancing peace and cooperation among nations.
Curriculum for the Associate in Arts degree is recommended for this program. Please check for transferability with your intended institution or see Advising and Counseling.

General Education Core Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course **AND**	
ENG ---	3	Any Approved College Composition II Course	
		OR	
ENG ---	(3)	Any Approved College Composition I Course **AND**	
ENG 113	(3)	Technical Communication	
LW ---	1	Any 1 Credit LW Course (As of fall 2007) **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
--- ---	8	Natural Science Electives	
--- ---	7	General Electives	
	23	**SUBTOTAL**	

Core Courses

Course	Credits	Course Title	Completed
IHU 120W	3	Introduction to Global Peace Studies **OR**	
SSI 120W	(3)	Introduction to Global Peace Studies	
IHU 240W	3	Leadership for Positive Change **OR**	
SSI 240W	(3)	Leadership for Positive Change	
POL 225W	3	World Politics	
--- ---	8	Any Foreign Language I and II	
	17	**SUBTOTAL**	

The following courses are STRONGLY recommended in fulfilling the Global Peace Studies AA degree General Education requirements. Many of the courses also fulfill Global Peace Studies track requirements.

Recommended Electives

Course	Credits	Course Title	Completed
BIO 110W	4	Environmental Science	
COM 112	3	Any Approved Fundamentals of Oral Communication	
ECN 221W	4	Principles of Macroeconomics	
PHL 213W	3	Introduction to Ethics	
PSY 211W	4	General Psychology **OR**	
SOC 211W	(3)	Principles of Sociology	
--- ---	3/4	Courses in Art, Literature, or Music	

In addition to the core courses, an additional 8-12 credits from the Track of your choice are required for the Associate Degree. Consult with Academic Advising for specific 2+2 or 3+1 Transfer requirements.

Track 1: International Business (2+2 or 3+1Transfer) See note below.

Course	Credits	Course Title	Completed
ACC 211	4	Principles of Accounting I	
ACC 212	4	Principles of Accounting II	
COM 112	3	Any Approved Fundamentals of Oral Communication	
CST 133W	4	Computer Concepts & Competencies	
ECN 221W	4	Principles of Macroeconomics	
ECN 222W	4	Principles of Microeconomics	
MGT 243	3	Principles of Marketing	
MGT 245	3	Principles of Management	
MGT 251W	3	Business Law I	
MGT 265	3	International Business	
MTH 208W	3	Elementary Statistics	
MTH 120	3	Finite Mathematics **OR**	
MTH 122W	(4)	College Algebra	
PHL 203W	3	Business Ethics **OR**	
PHL 213W	(3)	Introduction to Ethics	
--- ---	8	Any Foreign Language III & IV	
	8/12	**SUBTOTAL**	

Track 2: Global Environment (2+2 Transfer) Taken in at least two subject areas. Include at least one lab course.

Course	Credits	Course Title	Completed
BIO 110W	4	Environmental Science	
BIO 119	1	Stream Ecology	
ENV 105	3	Introduction To Environmental Health & Safety	
ENV 130W	1	Pollution Prevention	
GEO 111	4	Physical Geography	
GEO 113W	4	World Cultural Geography	
GEO 222	3	Geography of Asia **OR**	
GEO 223	(3)	Geography of Europe **OR**	
GEO 226	(3)	Geography of United States and Canada	
	8/12	**SUBTOTAL**	

Track 3: Human Services/Social Justice (2+2 Transfer)

Course	Credits	Course Title	Completed
HIS 215W	3	Recent African-American History: Since 1850	
HIS 217W	3	Hispanics in the U.S.	
HIS 225W	3	History of Women and Gender in the West	
IHU 202	3	Women's Studies	
IHU 232W	3	Exploring Human Nature **OR**	
SSI 232W	(3)	Exploring Human Nature	
IHU 234W	4	World Religions **OR**	
SSI 234W	(4)	World Religions	
IHU 280W	2	Exploring Diversity **OR**	
SSI 288W	(2)	Exploring Diversity **OR**	
IHU 281W	3	Exploring Diversity/With Project **OR**	
SSI 289W	(3)	Exploring Diversity/With Project	
LIT 269W	3	Native North American Literature	
LIT 278W	3	Modern African-American Literature	
LIT 285W	3	Women in Literature	
POL 220W	3	Minority Group Politics	
SOC 215W	3	Sociology of Minority Groups	
SOC 300W	3	Interviewing, Counseling, and the Helping Relationship **OR**	
PSY 300W	(3)	Interviewing, Counseling, and the Helping Relationship	
SPA 113W	2	Introduction to Hispanic Cultures	
	8/12	**SUBTOTAL**	

Track 4: International Relations

Course	Credits	Course Title	Completed
GEO 113W	4	World Cultural Geography	
GEO 255W	4	Third World Development **OR**	
SOC 265W	(4)	Third World Development	
HIS 112W	4	A Survey of Later Western Civilization	
IHU 234W	4	World Religions **OR**	
SSI 234W	(4)	World Religions	
LIT 260W	3	Literature and History of the Holocaust	
POL 221W	3	Comparative Government	
POL 222	3	Politics of the Middle East	
POL 229W	3	Political Terrorism	
SOC 231W	3	Cultural Anthropology	
	8/12	**SUBTOTAL**	
	62	**TOTAL CREDITS**	

1. A grade of "C" (2.0) or higher is required in all courses for the degree.
2. Track 2 courses meet Natural Science requirement in General Education Core Courses.
3. See Section IV, Academic Policies, Graduation Requirements, Group Requirements for approved courses. You may qualify for MACRAO. Apply online or at the Registrar's Office.
4. To complete the "Group Requirement" graduation requirement in Humanities take the IHU version. See Section IV, Academic Policies, Graduation Requirements, Group Requirements for approved courses.
5. Those students who use Track 2 to complete Natural Science electives will need to complete 15 hours of electives. BIO 110 is required as one of your electives for Track 2.
6. 3+1 Transfer may require Spanish as the foreign language requirement. One full year (8 credits) are required of a foreign language for the 2+2 transfer, and two full years (16 credits) are required for the 3+1 transfer. Check with a counselor for your program.
7. All of the courses in Track 1 must be taken to qualify for the 3+1 transfer.
8. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
9. Delta College reserves the right to modify graduation requirements.
10. If you plan to pursue an advanced degree, see pages ADVANVED_DEGREE_PAGES for special transfer agreements.

Group Fitness Instructor - Advanced Certificate

Program Code: CSA.35740

Today's fitness industry is rapidly growing. Being a group exercise instructor is no longer about teaching aerobics. The modern group fitness instructor may be expected to teach a variety of specialties such as step aerobics, indoor cycling, yoga, Pilates, cardio kickboxing, weight training and conditioning, stability ball, and senior or child fitness classes. This program will offer the education and certification to teach safe and effective exercise to a wide variety of populations. An understanding of human anatomy and physiology will also be included. Upon completion of this program, you will be eligible to sit for the American Council on Exercise (ACE) certification exam.

Basic Program Requirements

Course	Credits	Course Title	Completed
BIO 101W	4	Introduction to Anatomy and Physiology	
		OR	
BIO 152W	(4)	Human Anatomy & Physiology I	
		OR	
BIO 140W	(5)	Essentials Of Human Anatomy & Physiology	
COM 112	3	Any Approved Fundamentals of Oral Communication	
HSC 140	2	Basic Medical Emergencies	
		OR	
LWT 165	(1)	Community First Aid **AND**	
LWT 170	(1)	Basic Life Support for the Health Care Provider	
LWA 151	1	Kick Boxing	
LWA 152	1.5	Astanga Yoga	
LWA 153	1	Dance Aerobics	
		OR	
LWA 157	(1)	Step Aerobics	
LWA 156W	1	Stability Ball Training	
LWA 158	1	Pilates	
LW 220W	1	Lifelong Wellness	
		OR	
LW 221W	(2)	Fitness and Wellness	
LWT 210	3	Nutrition: The Science of Optimal Living	
		OR	
LW 222	(3)	The Science of Nutrition and Exercise	
LWT 230	3	Theory of Strength and Conditioning	
LWT 242	4	Group Fitness Instructor	

25.5/27.5 TOTAL CREDITS REQUIRED FOR CERTIFICATE

1. Current CPR certification is required for admission to the program and must be maintained throughout the program.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Group Fitness Instructor Adv Cert**

Group Fitness Instructor Adv Cert

Total Program Cost (In District):	$3,768.80
On-Time Completion Rate:	NA
Program Job Placement Rate:	NA
Median Loan Dept:	NA

Health Fitness Specialist - Associate in Applied Science

Program Code: AAS.25710

This degree can stand alone or can lead to a bachelor's degree in Health Fitness, Exercise Physiology, or related field. The program prepares students to sit for two of the most nationally recognized fitness certification exams: The National Strength and Conditioning Association - Certified Personal Trainer Exam, and the American College of Sports Medicine - Certified Personal Trainer or Health Fitness Specialist Exam. This program will give the health fitness student the fundamental knowledge of exercise physiology; human anatomy and physiology; biomechanics; prevention and treatment of exercise-related injuries; CPR, First Aid, and AED readiness skills; health appraisals and assessments; application of fitness principles and strength training; applicable knowledge of nutrition, weight management, stress management, and self-employment; skills in health fitness assessment, as well as designing and leading endurance and strength programs for diverse populations. In addition, upon completion of this associate degree, the health fitness specialist will also have attained the Delta College Personal Trainer Certificate.

General Education Courses

Course	Credits	Course Title	Completed
BIO 111W	4	Principles of Biology	
CHM 101W	5	General Chemistry I	
COM 112W	3	Fundamentals of Oral Communication	
ENG ---	3	Any Approved College Composition I Course	
ENG ---	3	Any Approved College Composition II Course	
POL ---	3/4	Any Approved American Government Requirement	
PSY 211W	4	General Psychology	
--- ---	0/1	Any Social Science Elective	
--- ---	5	Any Humanities Elective (except for COM)	
	30/32	**SUBTOTAL**	

Basic Program Requirements

Course	Credits	Course Title	Completed
BIO 152W	4	Human Anatomy & Physiology I	
BIO 153W	4	Human Anatomy & Physiology II	
LW 220W	1	Lifelong Wellness	
		OR	
LW 221W	(2)	Fitness and Wellness	
LWT 165	1	Community First Aid **AND**	
LWT 170	1	BLS for the Health Care Provider	
		OR	
HSC 140	(2)	Basic Medical Emergencies	
LWT 210	3	Nutrition: The Science of Optimal Living	
		OR	
LW 222	(3)	The Science of Nutrition and Exercise	
LWT 230	3	Theory of Strength and Conditioning	
LWT 240	4	Health Fitness Instructor/Personal Trainer	
LWT 242	4	Group Fitness Instructor	
LWT 251	4	Exercise Physiology	
LWT 255	3	Health Fitness Management and Promotion	
LWT 260	5	Health Fitness Experience	
LWA ---	1	Lifelong Wellness Elective from Category A:	
LWA ---	1	Lifelong Wellness Elective from Category B:	
	39/40.5	**SUBTOTAL**	

LWA Electives - Category A (Choose from this list for Basic Program Requirements)

Course	Credits	Course Title	Completed
LWA 101	1	Fitness for Life	
LWA 106	1	Athletic Conditioning	
LWA 108	1	Weight Training	
LWA 111	1	Circuit Training	

LWA Electives - Category B (Choose from this list for Basic Program Requirements)

Course	Credits	Course Title	Completed
LWA 151	1	Kick Boxing	
LWA 152	1.5	Astanga Yoga	
LWA 153	1	Dance Aerobics	
LWA 154W	1	BOSU Ball Training	
LWA 156W	1	Stability Ball Training	
LWA 157	1	Step Aerobics	
LWA 158	1	Pilates	

69/72.5 TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE

1. In addition to tuition, fees, and textbook costs, you may have to purchase special shoes, shirts, nametags, and provide transportation to all internship sites.
2. Current CPR certification is required for admission to LWT 260. Current CPR certification must be maintained throughout the program.
3. You need to be aware that internship assignments may be outside the Tri-county area.
4. See College catalog for graduation and MACRAO requirements.
5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
6. Delta College reserves the right to modify graduation requirements.

HVACR Air Conditioning - Advanced Certificate

Program Code: CTA.35891

This program will provide education and skill training for service technicians in the Air Conditioning Service Industry. Technicians on the job are needed to test, troubleshoot, repair, install, and sell the wide range of mechanical and electrical appliances and components in this field.

Core Courses

Course	Credits	Course Title	Completed
ACE 285W	1	Internship: Design Technology	
ENG ---	3	Any Approved College Composition I Course	
RHA 121	3	Fundamentals of Refrigeration & A/C	
RHA 122	3	Refrigeration & A/C Service I	
RHA 124	3	Refrigeration & A/C Service II	
RHA 126	3	Refrigerant Piping & Practices	
RHA 140	3	Applied Electricity I	
RHA 142	3	Sheetmetal Layout I	
RHA 146	3	Residential Air Conditioning Systems	
RHA 150	1	Refrigerant Certification	
RHA 210W	3	Commercial Air Conditioning	
RHA 230	5	Design of HVAC Systems	

34 TOTAL CREDITS

1. A Grade of "C" (2.0) or higher is required in RHA 150, RHA 210W and RHA 230 which are also key courses and must be completed within 5 years of completing the certificate. Failure to complete within the stated time frame will require you to repeat this course. See section 4 of the College Catalog "Academic Policies/Graduation Requirements."
2. Prior to enrollment, you must have an ASSET score of 38 (Elementary Algebra), 31 (Intermediate Algebra), or 28 (College Algebra) or an ACT score of 19 in Math, or COMPASS score of 41 (Algebra). You are advised to take MTH 097 if your algebra skills are weak.
3. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
4. Delta College reserves the right to modify graduation requirements.
5. If you plan to pursue an advanced degree, see pages ADVANVED_DEGREE_PAGES for special transfer agreements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Air Conditioning Adv Cert**

Air Conditioning Adv Cert

Total Program Cost (In District):	$4,919.20
On-Time Completion Rate:	96.00%
Program Job Placement Rate:	NA
Median Loan Dept:	$0.00

HVACR Commercial Refrigeration - Advanced Certificate

Program Code: CTA.35890

This program will provide education and skill training for service technicians in the Refrigeration Service Industry. Technicians on the job are needed to test, troubleshoot, repair, install, and sell the wide range of mechanical and electrical appliances and components in this field.

Core Courses

Course	Credits	Course Title	Completed
ACE 285W	1	Internship: Design Technology	_____
ENG ---	3	Any Approved College Composition I Course	_____
RHA 121	3	Fundamentals of Refrigeration & A/C	_____
RHA 122	3	Refrigeration & A/C Service I	_____
RHA 123	3	Commercial Refrigeration Flow Controls I	_____
RHA 124	3	Refrigeration & A/C Service II	_____
RHA 126	3	Refrigerant Piping & Practices	_____
RHA 140	3	Applied Electricity I	_____
RHA 150	1	Refrigerant Certification	_____
RHA 225	3	Commercial Refrigeration II	_____
RHA 230	5	Design of HVAC Systems	_____
RHA 233W	5	Commercial Refrigeration III	_____

36 TOTAL CREDITS

1. A Grade of "C" (2.0) or higher is required in RHA 150, RHA 230 and RHA 233W which are also key courses and must be completed within 5 years of completing the certificate. Failure to complete within the stated time frame will require you to repeat this course. See section 4 of the College Catalog "Academic Policies/Graduation Requirements."
2. Prior to enrollment, you must have an ASSET score of 38 (Elementary Algebra), 31 (Intermediate Algebra), or 28 (College Algebra) or an ACT score of 19 in Math, or COMPASS score of 41 (Algebra). You are advised to take MTH 097 if your algebra skills are weak.
3. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
4. Delta College reserves the right to modify graduation requirements.
5. If you plan to pursue an advanced degree, see pages ADVANVED_DEGREE_PAGES for special transfer agreements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Commercial Refrigeration Adv Cert**

Commercial Refrigeration Adv Cert

Total Program Cost (In District):	$5,206.80
On-Time Completion Rate:	100.00%
Program Job Placement Rate:	NA
Median Loan Dept:	$0.00

HVACR Heating - Advanced Certificate

Program Code: CTA.35892

This program will provide education and skill training for service technicians in the Heating Service Industry. Technicians on the job are needed to test, troubleshoot, repair, install, and sell the wide range of mechanical and electrical appliances and components in this field.

Core Courses

Course	Credits	Course Title	Completed
ACE 285W	1	Internship: Design Technology	
ENG ---	3	Any Approved College Composition I Course	
RHA 135	3	Heating System Fundamentals	
RHA 136	3	Heating Service Fundamentals	
RHA 140	3	Applied Electricity I	
RHA 142	3	Sheetmetal Layout I	
RHA 230	5	Design of HVAC Systems	
RHA 235	3	Hydronic and Oil Heating Fundamentals	

24 TOTAL CREDITS

1. A Grade of "C" (2.0) or higher is required in HA 136, RHA 230, and RHA 235, which are also key courses and must be completed within 5 years of completing the certificate. Failure to complete within the stated time frame will require you to repeat this course. See section 4 of the College Catalog "Academic Policies/Graduation Requirements."
2. Prior to enrollment, you must have an ASSET score of 38 (Elementary Algebra), 31 (Intermediate Algebra), or 28 (College Algebra) or an ACT score of 19 in Math, or COMPASS score of 41 (Algebra). You are advised to take MTH 097 if your algebra skills are weak.
3. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
4. Delta College reserves the right to modify graduation requirements.
5. If you plan to pursue an advanced degree, see pages ADVANVED_DEGREE_PAGES for special transfer agreements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Heating Adv Cert**

Heating Adv Cert

Total Program Cost (In District):	$3,481.20
On-Time Completion Rate:	100.00%
Program Job Placement Rate:	NA
Median Loan Dept:	$0.00

HVACR Service Technology - Associate in Applied Science

Program Code: AAS.15890

This program will provide you education and skill training for service technicians in the Refrigeration, Heating, and Air Conditioning Service Industry. Technicians on the job are needed to test, troubleshoot, repair, install, and sell the wide range of mechanical and electrical appliances and components in this field.

General Education Courses

Course	Credits	Course Title	Completed
COM 112	3	Any Approved Fundamentals of Oral Communication	
CST 133W	4	Computer Concepts & Competencies	
		OR	
CST 134	(3)	Micro Computers in Business Using MS Office	
ENG ---	3	Any Approved College Composition I Course	
ENG 113	3	Technical Communication	
LW ---	1	Any Lifelong Wellness Course	
LWA ---	1	Any 1 Credit LWA Course	
MTH ---	4	Any Approved Intermediate Algebra Course	
POL ---	3/4	Any Approved American Government Requirement	
	21/23	**SUBTOTAL**	

Technical Courses

Course	Credits	Course Title	Completed
ACE 285W	1	Internship: Design Technology	
RHA 121	3	Fundamentals of Refrigeration & A/C	
RHA 122	3	Refrigeration & A/C Service I	
RHA 123	3	Commercial Refrigeration Flow Controls I	
RHA 124	3	Refrigeration & A/C Service II	
RHA 126	3	Refrigerant Piping & Practices	
RHA 135	3	Heating System Fundamentals	
RHA 136	3	Heating Service Fundamentals	
RHA 140	3	Applied Electricity I	
RHA 142	3	Sheetmetal Layout I	
RHA 146	3	Residential Air Conditioning Systems	
RHA 150	1	Refrigerant Certification	
RHA 210W	3	Commercial Air Conditioning	
RHA 225	3	Commercial Refrigeration II	
RHA 230	5	Design of HVAC Systems	
RHA 235	3	Hydronic and Oil Heating Fundamentals	
	46	**SUBTOTAL**	
	67/69	**TOTAL CREDITS**	

1. A Grade of "C" (2.0) or higher is required in RHA 136, RHA 150, RHA 210W, RHA 230, and RHA 235, which are also key courses and must be completed within 5 years of completing the certificate. Failure to complete within the stated time frame will require you to repeat this course. See section 4 of the College Catalog "Academic Policies/Graduation Requirements."
2. Prior to enrollment, you must have an ASSET score of 38 (Elementary Algebra), 31 (Intermediate Algebra), or 28 (College Algebra) or an ACT score of 19 in Math, or COMPASS score of 41 (Algebra). You are advised to take MTH 097 if your algebra skills are weak.
3. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
4. Delta College reserves the right to modify graduation requirements.

Industrial Technology Education - Associate in Applied Science

Program Code: AAS.15710

The industrial technology major for teachers includes coursework to develop technical competence in the technical core of Manufacturing, Construction, Communications, and Power/Energy. It also includes a professional core of coursework directly related to teaching technology to children and youth in public schools of Michigan.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course	
ENG ---	3	Any Approved College Composition II Course	
LW 223W	2	Wellness in Technical Trades	
MTH ---	4	Any Approved Intermediate Algebra Course	
POL ---	3/4	Any Approved American Government Requirement	
PSY 211W	4	General Psychology	
	19/20	**SUBTOTAL**	

Basic Program Requirements

Course	Credits	Course Title	Completed
ARC 101	3	Materials and Methods of Construction	
ARC 105	4	Architectural Drafting I **OR**	
DRF 104	(4)	Basic Mechanical Design **OR**	
DRF 105	(3)	Beginning Mechanical Drafting	
AUT 100	3	Introduction to Automotive Service	
CAD 114	3	Introduction to CAD **OR**	
ARC 114	(3)	Architectural AutoCAD 2D Basics	
ED 200BW	3	Exploratory Teaching (Secondary)	
EET 235	3	Electrical Circuits	
ITE 330	3	Careers and Technology for Children	
ITE 340	3	Teaching Methods and Strategies in Industrial/Technical Education	
ITE 350	3	Curriculum Development and Facility Planning in Industrial/Technical Education	
MIT 111W	3	Manufacturing Processes	
MS 181W	4	Machine Tools I	
RC 104	3	Construction Lab	
RC 205	5	Cabinet Making and Millwork	

Complete 3 credits from the following list

Course	Credits	Course Title	Completed
WELD 101	1	Exploratory Oxy-Fuel Welding and Cutting	
WELD 102	1	Exploratory Shielded Metal Arc Welding	
WELD 106	1	Exploratory Gas Tungsten Arc Welding	
WELD 108	1	Exploratory Gas Metal Arc Welding	
	45/46	**SUBTOTAL**	
	64/66	**TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE**	

1. This program requires transfer to SVSU.
2. Potential students need to meet with the Counseling office for advisement prior to beginning program.
3. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
4. Delta College reserves the right to modify graduation requirements.

International Studies (with Foreign Language Skills) - Advanced Certificate

Program Code: CSA.35493

While pursuing your individual program of studies as a Delta College student, you can earn an "add-on" Certificate in International Studies by successfully completing applicable courses from designated sets (A, B, C) of present Delta courses (or their equivalents). This program is designed to: 1) provide students a wider and deeper range of international awareness and knowledge; 2) promote an interest in other cultures and places; 3) promote an interest in foreign languages; 4) lay the groundwork for future international learning options for you as a Delta graduate, and 5) enhance employment opportunities. The Certificate in International Studies is an "add-on" to the credential for your present program of studies. Courses/ credits you already have may be applicable toward the certificate requirements.

Core Courses

Course	Credits	Course Title	Completed
GEO 113	4	World Cultural Geography	
HIS 112W	4	A Survey of Later Western Civilization	
--- ---	6	Choose From Set B Courses	
--- ---	8	Foreign Language Set A Courses	
--- ---	2/3	Choose From Set B or C	
	24/25	**TOTAL CREDITS**	

SET A: Foreign Languages

Course	Credits	Course Title	Completed
--- ---	4	French (FR)	
--- ---	4	German (GE)	
--- ---	2/4	Spanish (SPA)	

SET B: Broad scope Global/International courses

Course	Credits	Course Title	Completed
ECN 268W	4	International Studies in Economics	
GEO 111	4	Physical Geography	
GEO 255	4	Third World Development	
		OR	
SOC 265	(4)	Third World Development	
HIS 111W	4	A Survey of Early Western Civilization	
MGT 265	3	International Business	
POL 221W	3	Comparative Government	
POL 225W	3	World Politics	
SOC 231	3	Cultural Anthropology	

Set C: Specialized Global/International courses

Course	Credits	Course Title	Completed
ARC 101	3	Materials and Methods of Construction	
BIO 230	4	Physical Anthropology And Archeology	
		OR	
SOC 230	(4)	Physical Anthropology and Archeology	

BIO 268	4	International Studies In Biology	_____
ECN 268W	1-4	International Studies in Economics	_____
GEO 222	3	Geography Of Asia	_____
GEO 223	3	Geography Of Europe	_____
GEO 226	3	Geography Of United States And Canada	_____
GEO 260	3	Geography Of The Pacific Islands	_____
GEO 262	1	The Geography Of The Canadian Shield	_____
GEO 268	4	International Studies In Geography	_____
GLG 268	4	International Studies In Geology	_____
HIS 214	3	Early African-American History Pre-European Africa to 1877	_____
HIS 217	3	Hispanics in the U.S.	_____
HIS 268W	3	International Studies in History	_____
IHU 161	1	Projects in Cross-Cultural Learning	_____
		OR	
SOC 161	(1)	Projects in Cross-Cultural Learning	_____
IHU 162	2	Projects in Cross-Cultural Learning	_____
		OR	
SOC 162	(2)	Projects in Cross-Cultural Learning	_____
LIT 241W	3	Introduction to Mythology	_____
LIT 242W	3	Introduction to British Literature	_____
LIT 245W	3	Biblical Literature: Old Testament	_____
LIT 246W	3	Biblical Literature: New Testament	_____
LIT 268	4	International Studies in Literature	_____
POL 222	3	Politics of the Middle East	_____
POL 229W	3	Political Terrorism	_____
POL 268W	4	International Studies in Political Science	_____
SOC 265	4	Third World Development	_____
		OR	
GEO 255	(4)	Third World Development	_____
SOC 268	1-4	International Studies in Sociology	_____
SPA 113W	2	Introduction to Hispanic Cultures	_____
SPA 275	3	Introduction of Hispanic Fiction	_____

1. A minimum grade of "C" (2.0) or higher is required in GEO 113 and HIS 112W.
2. SOC 231 – Cultural Anthropology – is a highly recommended "Basic Program" elective.
3. Questions regarding this program may be directed to the Director of International/Intercultural Programs or the Counseling Office.
4. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
5. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Intrntl Studies Adv Cert**

Intrntl Studies Adv Cert

Total Program Cost (In District):	$3,481.20
On-Time Completion Rate:	NA
Program Job Placement Rate:	100.00%
Median Loan Dept:	NA

International Studies (without Foreign Language Skills) - Advanced Certificate

Program Code: CSA.35493

While pursuing your individual program of studies as a Delta College student, you can earn an "add-on" Certificate in International Studies by successfully completing applicable courses from designated sets (A, B, C) of present Delta courses (or their equivalents). This program is designed to: 1) provide students a wider and deeper range of international awareness and knowledge; 2) promote an interest in other cultures and places; 3) promote an interest in foreign languages; 4) lay the groundwork for future international learning options for you as a Delta graduate, and 5) enhance employment opportunities. The Certificate in International Studies is an "add-on" to the credential for your present program of studies. Courses/ credits you already have may be applicable toward the certificate requirements.

Core Courses

Course	Credits	Course Title	Completed
GEO 113	4	World Cultural Geography	
HIS 112W	4	A Survey of Later Western Civilization	
--- ---	6	Choose From Set B Courses	
--- ---	10	Any combination from Sets A,B,C	
	24	**TOTAL CREDITS**	

SET A: Foreign Languages

Course	Credits	Course Title	Completed
--- ---	4	French (FR)	
--- ---	4	German (GE)	
--- ---	2/4	Spanish (SPA)	

SET B: Broad scope Global/International courses

Course	Credits	Course Title	Completed
ECN 268W	4	International Studies in Economics	
GEO 111	4	Physical Geography	
GEO 255	4	Third World Development	
		OR	
SOC 265	(4)	Third World Development	
HIS 111W	4	A Survey of Early Western Civilization	
MGT 265	3	International Business	
POL 221W	3	Comparative Government	
POL 225W	3	World Politics	
SOC 231	3	Cultural Anthropology	

Set C: Specialized Global/International courses

Course	Credits	Course Title	Completed
ARC 101	3	Materials and Methods of Construction	
BIO 230	4	Physical Anthropology And Archeology	
		OR	
SOC 230	(4)	Physical Anthropology and Archeology	

BIO 268	4	International Studies In Biology	_____
ECN 268W	1-4	International Studies in Economics	_____
GEO 222	3	Geography Of Asia	_____
GEO 223	3	Geography Of Europe	_____
GEO 226	3	Geography Of United States And Canada	_____
GEO 260	3	Geography Of The Pacific Islands	_____
GEO 262	1	The Geography Of The Canadian Shield	_____
GEO 268	4	International Studies In Geography	_____
GLG 268	4	International Studies In Geology	_____
HIS 214	3	Early African-American History Pre-European Africa to 1877	_____
HIS 217	3	Hispanics in the U.S.	_____
HIS 268W	3	International Studies in History	_____
IHU 161	1	Projects in Cross-Cultural Learning	_____
		OR	
SOC 161	(1)	Projects in Cross-Cultural Learning	_____
IHU 162	2	Projects in Cross-Cultural Learning	_____
		OR	
SOC 162	(2)	Projects in Cross-Cultural Learning	_____
LIT 241W	3	Introduction to Mythology	_____
LIT 242W	3	Introduction to British Literature	_____
LIT 245W	3	Biblical Literature: Old Testament	_____
LIT 246W	3	Biblical Literature: New Testament	_____
LIT 268	4	International Studies in Literature	_____
POL 222	3	Politics of the Middle East	_____
POL 229W	3	Political Terrorism	_____
POL 268W	4	International Studies in Political Science	_____
SOC 265	4	Third World Development	_____
		OR	
GEO 255	(4)	Third World Development	_____
SOC 268	1-4	International Studies in Sociology	_____
SPA 113W	2	Introduction to Hispanic Cultures	_____
SPA 275	3	Introduction of Hispanic Fiction	_____
	24	**TOTAL CREDITS**	

1. A Grade of "C" (2.0) or higher is required in GEO 113 and HIS 112.
2. SOC 231 – Cultural Anthropology – is a highly recommended "Basic Program" elective.
4. Questions regarding this program may be directed to the Director of International/Intercultural Programs or the Counseling Office.
4. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
5. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Intrntl Studies Adv Cert**

Intrntl Studies Adv Cert

Total Program Cost (In District):	$3,481.20
On-Time Completion Rate:	NA
Program Job Placement Rate:	100.00%
Median Loan Dept:	NA

Journalism and Emerging Media - Advanced Certificate

Program Code: CEA.35324

This certificate prepares you to report, write and display information using traditional journalistic principles combined with the most effective current technology.

Core Courses

Course	Credits	Course Title	Completed
ART 241	3	Graphics Studio 1	
ART 242	3	Graphics Studio 2	
CST 110	1	Web Page Development Using HTML	
CST 210	2	Advanced Web Page Development	
EMB 151	3	Media Production I	
EMB 155	4	Media Production II	
ENG 115	3	Mass Media	
ENG 116	3	News Writing	
ENG 216W	3	New Media Writing	
ENG 217	3	Advanced Reporting	
PHL 205W	3	Media Ethics & Law	

31 TOTAL CREDITS

1. A Grade of “C” (2.0) or higher is required in all courses for the certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar’s Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.
4. If you plan to pursue an advanced degree, see pages ADVANVED_DEGREE_PAGES for special transfer agreements.

Journalism and Emerging Media - Associate in Arts

Program Code: AA.40000

This degree prepares you to report, write and display information using traditional journalistic principles combined with the most effective current technology.

General Education Requirements

Course	Credits	Course Title	Completed
COM 112W	3	Fundamentals of Oral Communication	
ECN 221W	4	Principles of Macroeconomics	
ENG ---	3	Any Approved College Composition I Course	
ENG ---	3	Any Approved College Composition II Course	
LW ---	1	Any 1 Credit LW Course (As of fall 2007) **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
MTH ---	3/4	Any Approved Intermediate Algebra Course	
POL ---	3/4	Any Approved American Government Requirement	
	21/23	**SUBTOTAL**	

Core Courses

Course	Credits	Course Title	Completed
ART 241	3	Graphics Studio 1	
ART 242	3	Graphics Studio 2	
CST 110	1	Web Page Development Using HTML	
CST 210	2	Advanced Web Page Development	
EMB 151	3	Media Production I	
EMB 155	4	Media Production II	
ENG 115	3	Mass Media	
ENG 116	3	News Writing	
ENG 216W	3	New Media Writing	
ENG 217	3	Advanced Reporting	
PHL 205W	3	Media Ethics & Law	
	31	**SUBTOTAL**	

Approved Electives

Course	Credits	Course Title	Completed
ART 100	3	Elements of Color Photography	
EMB 141W	2	Fundamentals of Audio Production	
EMB 154	2	Peripheral Multimedia Applications	
EMB 161	2	Podcasting, Online, and Mobile Media	
EMB 255W	4	Media Production III	
ENG 214	3	Introduction to Professional Writing	
ENG 205	1	English Internship I	
ENG 210	2	English Internship II	
ENG 230	3	English Internship III	
IHU 267	3	Producing A Student Publication	
MGT 143	3	Principles of Advertising	
MGT 243	3	Principles of Marketing	
--- ---	4/5	Any approved Natural Science Course with Lab (MACRAO Transfer)	
	8/10	**SUBTOTAL**	
	62	**TOTAL CREDITS**	

1. A minimum grade of "C" (2.0) or higher is required in all core courses.
2. Any Approved Intermediate Algebra Course, or higher Math course-with the exception of MTH 153. If planning to transfer, consult with a counselor to ensure that you take math courses appropriate for your program at that institution.
3. POL 104 is recommended if you intend to apply for MACRAO.
4. Curriculum for the Associate in Arts degree is recommended for this program. Please check for transferability with your intended institution or see Advising and Counseling.
5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
6. Delta College reserves the right to modify graduation requirements.
7. If you plan to pursue an advanced degree, see pages ADVANVED_DEGREE_PAGES for special transfer agreements.

Lean Resource Management - Certificate of Achievement

Program Code: CTZ.35851

The ability of a company to respond to today's market forces involves the identification and management of the value stream. The focus of this certificate is to provide you with the knowledge and skills to examine how a company can provide value to its customers while staying agile and competitive. It looks at the tools and techniques of value creation and waste reduction within both manufacturing and service organizations while optimizing the company's resources.

Basic Program Requirements

Course	Credits	Course Title	Completed
MIT 118	2	Safety Practices and Procedures	
MIT 210	3	Lean Thinking Strategies	
MTH ---	4	Any Approved Intermediate Algebra Course	
MTH 208W	3	Elementary Statistics	
QA 125	3	Quality System Design	
QA 244	3	Statistical Process Control	
	18	**SUBTOTAL**	
	18	**TOTAL CREDITS REQUIRED FOR CERTIFICATE**	

1. A grade of "C" (2.0) or higher is required in all courses for certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Legal Support Professional - Law Office Foundation - Advanced Certificate

Program Code: CBA.35283

Not all legal work requires a law degree. As a legal support professional, you may work in a variety of environments and be responsible for a variety of job duties.

You may find work directly under the supervision of a lawyer. While the lawyer assumes responsibility for the legal support professional's work, you will often be allowed to perform all the functions of a lawyer other than accepting clients, setting fees, giving legal advice, or presenting a case in court. You will generally do background work for the lawyer and help a lawyer prepare litigation for trail by investigating the facts of the case to make sure that all relevant information is uncovered. Secretarial services are normally required as well.

You may conduct research to identify the appropriate laws, judicial decisions, legal articles, and other material that will be used to determine whether or not the client has a good case. After analyzing all the information, you may prepare a written report that is used by the attorney to decide how the case should be handled. If the attorney decides to file a lawsuit on behalf of the client, you may prepare legal arguments, draft pleadings to be filed with the court, obtain affidavits, and assist the attorney during the trial. You may also be responsible for routinely typing up the pleadings and client correspondence.

You may find work in a police department, court office, administrative office, nonprofit organization, loss prevention department or human resource office of a company. Job duties in these types of environments could consist of investigative work, process serving, file maintenance, typing of routine documents, applications and pleadings, and research into appropriate administrative or employment statutes and cases.

This program is designed to provide a basic foundation of the work required for a Legal Support Professional.

Core Courses

Course	Credits	Course Title	Completed
LSP 110W	3	Legal Ethics and Responsibilities of the Legal Assistant	
LSP 115	3	Principles of Substantive Law	
LSP 230	3	Civil Litigation	
LSP 260	1	Legal Support Internship I **OR**	
LSP 261	(2)	Legal Support Internship II **OR**	
LSP 262	(3)	Legal Support Internship III	
LSP 280W	3	Legal Research and Writing	
MGT 251W	3	Business Law I	
OAT 151	3	Business Communication I	
OAT 171	3	Document Processing: Beginning	
	22/24	**SUBTOTAL**	

Electives

Course	Credits	Course Title	Completed
LSP 150	2	Real Estate Law	
LSP 210	2	Estate and Trust Administration	
LSP 220	2	Environmental Law	
LSP 235	3	Criminal Law and Procedure	
LSP 240	2	Domestic Relations	
LSP 245	3	Personal Injury	
LSP 250	2	Corporate Law	
LSP 253	3	Bankruptcy Law	
MGT 256	3	Human Resources Management I	
	8/10	**SUBTOTAL**	

THIS CERTIFICATE IS PART OF A LADDERED PROGRAM. CREDITS EARNED MAY BE APPLIED TOWARDS COMPLETION OF A LAW OFFICE SPECIALIST CERTIFICATE.

32 **TOTAL CREDITS**

1. A grade of "C" (2.0) or better is required for LSP 110, LSP 115, LSP 230, LSP 280, MGT 251, OAT 151, OAT 171 and all Elective courses.
2. Proficiency in keyboarding is required for successful completion of this program. If you are not proficient, take OAT 170 in your first semester.

3. OAT 171 Document Processing: Beginning requires OAT 170 Keyboarding with a “B” grade or better. A keyboarding waiver test is available for OAT 170. Contact the BIT Division office, 989.686.9127, to arrange for the waiver test.
4. Additional credits earned in LSP 261 or 262 may be used as elective credits.
5. File an application for an associate or dual degree and/or certificate with the Registrar’s Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
6. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Law Office Foundation Adv Cert**

Law Office Foundation Adv Cert

Total Program Cost (In District):	$4,631.60
On-Time Completion Rate:	NA
Program Job Placement Rate:	NA
Median Loan Dept:	NA

Legal Support Professional - Law Office Specialist - Advanced Certificate

Program Code: CBA.35284

Not all legal work requires a law degree. As a legal support professional, you may work in a variety of environments and be responsible for a variety of job duties.

You may find work directly under the supervision of a lawyer. While the lawyer assumes responsibility for the legal support professional's work, you will often be allowed to perform all the functions of a lawyer other than accepting clients, setting fees, giving legal advice, or presenting a case in court. You will generally do background work for the lawyer and help a lawyer prepare litigation for trail by investigating the facts of the case to make sure that all relevant information is uncovered. Secretarial services are normally required as well.

You may conduct research to identify the appropriate laws, judicial decisions, legal articles, and other material that will be used to determine whether or not the client has a good case. After analyzing all the information, you may prepare a written report that is used by the attorney to decide how the case should be handled. If the attorney decides to file a lawsuit on behalf of the client, you may prepare legal arguments, draft pleadings to be filed with the court, obtain affidavits, and assist the attorney during the trial. You may also be responsible for routinely typing up the pleadings and client correspondence.

You may find work in a police department, court office, administrative office, nonprofit organization, loss prevention department or human resource office of a company. Job duties in these types of environments could consist of investigative work, process serving, file maintenance, typing of routine documents, applications and pleadings, and research into appropriate administrative or employment statutes and cases.

This certificate program is designed to provide advanced office skills while specializing in a legal office.

Core Courses

Course	Credits	Course Title	Completed
ACC 211	4	Principles of Accounting I	
CST 106	1	Internet Foundations	
CST 110	1	Web Page Development Using HTML	
CST 151	2	Spreadsheet Fundamentals **OR**	
CST 155	(3)	Microsoft EXCEL	
LSP 110W	3	Legal Ethics and Responsibilities of the Legal Assistant	
LSP 115	3	Principles of Substantive Law	
LSP 230	3	Civil Litigation	
LSP 260	1	Legal Support Internship I **OR**	
LSP 261	(2)	Legal Support Internship II **OR**	
LSP 262	(3)	Legal Support Internship III	
LSP 280W	3	Legal Research and Writing	
MGT 251W	3	Business Law I	
MGT 252	3	Business Law II	
OAT 151	3	Business Communication I **AND**	
OAT 152	3	Business Communication II	
		OR	
OAT 151	(3)	Business Communication I **AND**	
ENG 111	(3)	College Composition I **AND**	
ENG 112	(3)	College Composition II **AND**	
		OR	
OAT 151	(3)	Business Communication I **AND**	
ENG 111	(3)	College Composition I **AND**	
ENG 113	(3)	Technical Communication	
OAT 171	3	Document Processing: Beginning	
OAT 172	3	Document Processing: Intermediate	
	39/45	**SUBTOTAL**	

Electives

Course	Credits	Course Title	Completed
LSP 150	2	Real Estate Law	
LSP 210	2	Estate and Trust Administration	
LSP 220	2	Environmental Law	
LSP 235	3	Criminal Law and Procedure	
LSP 240	2	Domestic Relations	
LSP 245	3	Personal Injury	
LSP 250	2	Corporate Law	
LSP 253	3	Bankruptcy Law	
MGT 256	3	Human Resources Management I	
	8/10	**SUBTOTAL**	

THIS CERTIFICATE IS PART OF A LADDERED PROGRAM. CREDITS EARNED MAY BE APPLIED TOWARDS COMPLETION OF A LEGAL SUPPORT PROFESSIONAL ASSOCIATE IN BUSINESS STUDIES DEGREE.

47/55 TOTAL CREDITS

1. A grade of "C" (2.0) or better is required in LSP 110, LSP 115, LSP 230, LSP 280, MGT 251, OAT 151, OAT 152 (or ENG equivalents) OAT 171, and all Elective courses.
2. Proficiency in keyboarding is required for successful completion of this program. If you are not proficient, take OAT 170 in your first semester.
3. OAT 171 Document Processing: Beginning requires OAT 170 Keyboarding with a "B" grade or better. A keyboarding waiver test is available for OAT 170. Contact the BIT Division office, 989.686.9127, to arrange for the waiver test.
4. Additional credits earned in LSP 261 or 262 may be used as elective credit.
5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
6. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Law Office Specialist Adv Cert**

Law Office Specialist Adv Cert

Total Program Cost (In District):	$7,076.20
On-Time Completion Rate:	NA
Program Job Placement Rate:	NA
Median Loan Dept:	NA

Legal Support Professional - Associate in Business Studies

Program Code: ABS.10282

Not all legal work requires a law degree. As a legal support professional, you may work in a variety of environments and be responsible for a variety of job duties.

You may find work directly under the supervision of a lawyer. While the lawyer assumes responsibility for the legal support professional's work, you will often be allowed to perform all the functions of a lawyer other than accepting clients, setting fees, giving legal advice, or presenting a case in court. You will generally do background work for the lawyer and help a lawyer prepare litigation for trail by investigating the facts of the case to make sure that all relevant information is uncovered. Secretarial services are normally required as well.

You may conduct research to identify the appropriate laws, judicial decisions, legal articles, and other material that will be used to determine whether or not the client has a good case. After analyzing all the information, you may prepare a written report that is used by the attorney to decide how the case should be handled. If the attorney decides to file a lawsuit on behalf of the client, you may prepare legal arguments, draft pleadings to be filed with the court, obtain affidavits, and assist the attorney during the trial. You may also be responsible for routinely typing up the pleadings and client correspondence.

You may find work in a police department, court office, administrative office, nonprofit organization, loss prevention department or human resource office of a company. Job duties in these types of environments could consist of investigative work, process serving, file maintenance, typing of routine documents, applications and pleadings, and research into appropriate administrative or employment statutes and cases.

LAW OFFICE FOUNDATION CERTIFICATE: This program is designed to provide a basic foundation of the work required for a Legal Support Professional.

LAW OFFICE SPECIALIST CERTIFICATE: This program is designed to provide advanced office skills while specializing in a legal office.

General Education Courses

Course	Credits	Course Title	Completed
COM 112W	3	Fundamentals of Oral Communication **OR**	
COM 114W	(3)	Interpersonal Communication	
LW ---	1	Any 1 Credit LW Course (As of fall 2007) **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
OAT 151	3	Business Communication I **AND**	
OAT 152	3	Business Communication II	
		OR	
OAT 151	(3)	Business Communication I **AND**	
ENG 111	(3)	College Composition I **AND**	
ENG 112	(3)	College Composition II	
		OR	
OAT 151	(3)	Business Communication I **AND**	
ENG 111	(3)	College Composition I **AND**	
ENG 113	(3)	Technical Communication	
POL ---	3/4	Any Approved American Government Requirement	
PSY 101W	3	Applied Psychology **OR**	
PSY 211W	(4)	Any General Psychology	
	17/22	**SUBTOTAL**	

Core Courses

Course	Credits	Course Title	Completed
ACC 211	4	Principles of Accounting I	
CST 106	1	Internet Foundations	
CST 110	1	Web Page Development Using HTML	

CST 151	2	Spreadsheet Fundamentals **OR**	
CST 155	(3)	Microsoft EXCEL	
LSP 110W	3	Legal Ethics and Responsibilities of the Legal Assistant	
LSP 115	3	Principles of Substantive Law	
LSP 230	3	Civil Litigation	
LSP 260	1	Legal Support Internship I **OR**	
LSP 261	(2)	Legal Support Internship II **OR**	
LSP 262	(3)	Legal Support Internship III	
LSP 280W	3	Legal Research and Writing	
MGT 251W	3	Business Law I	
MGT 252	3	Business Law II	
MGT 256	3	Human Resources Management I	
OAT 171	3	Document Processing: Beginning	
OAT 172	3	Document Processing: Intermediate	
	36/39	**SUBTOTAL**	

Elective Courses - Choose 5

Course	Credits	Course Title	Completed
LSP 150	2	Real Estate Law	
LSP 210	2	Estate and Trust Administration	
LSP 220	2	Environmental Law	
LSP 235	3	Criminal Law and Procedure	
LSP 240	2	Domestic Relations	
LSP 245	3	Personal Injury	
LSP 250	2	Corporate Law	
LSP 253	3	Bankruptcy Law	
MGT 257W	3	Human Resources Management II	
	10/14	**SUBTOTAL**	
	63/75	**TOTAL CREDITS**	

1. A grade of "C" (2.0) or higher is required in LSP 110, LSP 115, LSP 230, LSP 280, MGT 251, OAT 151, OAT 152, (OR ENG equivalents) and all Elective Courses.
2. Proficiency in keyboarding is required for successful completion of this program. If you are not proficient, take OAT 170 in your first semester.
3. OAT 171 Document Processing: Beginning requires OAT 170 Keyboarding with a "B" grade or better. A keyboarding waiver test is available for OAT 170. Contact the BIT Division office, 989.686.9127, to arrange for the waiver test.
4. Additional credits earned in LSP 261 or 262 may be used as elective credits.
5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
6. Delta College reserves the right to modify graduation requirements.

Liberal Arts - Advanced Certificate

Program Code: CSA.35390

The Liberal Arts Certificate program is intended for students who are planning on completing an Associate in Arts or Science Degree at Delta College. It is also intended for those planning on transferring to a four-year college or university after completing one year of course work at Delta. Completion of this certificate program will satisfy the MACRAO requirements (a transfer agreement in the State of Michigan that assists students with the transferability of general education requirements-see Transfer Programs and Procedures, MACRAO Articulation Agreements in this section. Required courses in the Liberal Arts Certificate are flexible and may be customized to meet the needs of the student based upon the transfer institution requirements. Most transfer institutions will accept at least 60 credit hours from Delta; therefore students are encouraged to take additional courses beyond the Liberal Arts Certificate requirements. Students seeking the Liberal Arts Certificate must work closely with the transfer school of choice as well as a Delta College Advisor/Counselor to help ensure the appropriate courses are taken at Delta.

Required Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course	_____
ENG ---	3	Any Approved College Composition II Course	_____
--- ---	8	Humanities Group Requirement (see below)	_____
--- ---	8	Social Science Group Requirement (see below)	_____
--- ---	8	Natural Science Group Requirement (see below)	_____
	30	**SUBTOTAL**	

Humanities Requirement (in at least two different subject areas) – must select classes from: ARC 251 only; ART(except ART 113, 219, 283, 289); ASL; EMB 140 & 175 only; COM; ENG 253, 254, 256 only; FR; GE; HIS 111 and 112 only; IHU; LIT; MUS (except MUS 138); PHL; RUS; SPA; SSI 110, 232, 234 only.

Social Science Requirement (in at least two different subject areas) – must select classes from: BIO 230 only; ECN; HIS; GEO (except GEO 103, 111, 261, 267); POL; PSY; SOC (except SOC 157, 158, 159, 162); SSI.

Science and Math Requirement (in at least two subject areas; must include at least one lab science of 15 contact hours) – must select classes from AST; BIO; CHM; CST 180, 181, 183, 280, 281, 282 only; ENV 310, 320 only; GEO 103, 111, 261, 267 only; GLG; MTH 115 and above (except MTH 117); PHY; PSC; SOC 230 only; SCI 250 only, TTI 110.

30 TOTAL CREDITS REQUIRED FOR CERTIFICATE OF ACHIEVEMENT

1. Courses below 100 cannot be included in any of the group requirements.
2. Courses listed in more than one Group may not be counted in both groups. For example: HIS 111 and 112 may be included in the Humanities Group or Social Science Group but may not be counted in both.
3. This program is intended for students wishing to complete course work at Delta before transferring to another college/university. Since transfer requirements vary by institution, students are strongly encouraged to meet with representatives from the transfer school. In addition, students should work closely with a Delta Advisor/Counselor in the Academic Advising Center.
4. Earn a minimum of two thirds (2/3) or 20 credits at Delta College.
5. You cannot apply more than twelve (12) credits of "P" grades.
6. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
7. Delta College reserves the right to modify graduation requirements.

Management - Cosmetology Management - Associate in Business

Program Code: ABS.10251

With a current State of Michigan Cosmetology License, you will receive twenty (20) elective credits at Delta College in the Cosmetology Management Program. Upon completion of the Associate Degree Program, you may be able to continue on at Delta in the 3 + 1 Program with Northwood University. You will also have the skills to open your own salon or manage an existing salon. If you are currently employed in the cosmetology industry, this program of study will also enhance job performance and earning ability. This program will help to fill the void in business training for cosmetology professionals who are required to perform in a business environment with a minimal business background from cosmetology school.

General Education Courses

Course	Credits	Course Title	Completed
ECN 221W	4	Principles of Macroeconomics	
LW ---	1	Any 1 Credit LW Course (As of fall 2007) **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
OAT 151	3	Business Communication I **AND**	
OAT 152	3	Business Communication II	
		OR	
OAT 151	(3)	Business Communication I **AND**	
ENG 111	(3)	College Composition I **AND**	
ENG 112	(3)	College Composition II	
		OR	
OAT 151	(3)	Business Communication I **AND**	
ENG 111	(3)	College Composition I **AND**	
ENG 113	(3)	Technical Communication	
POL ---	3/4	Any Approved American Government Requirement	
	15/19	**SUBTOTAL**	

Core Courses

Course	Credits	Course Title	Completed
	20	MI State Board of Cosmetology License	
ACC 121	4	Accounting for Managers	
		OR	
ACC 211	(4)	Principles of Accounting I	
CST 133W	4	Computer Concepts & Competencies	
ENT 131W	3	Entrepreneurship/Small Business Management I **AND**	
ENT 231W	3	Entrepreneurship/Small Business Management II	
		OR	
ENT 131W	(3)	Entrepreneurship/Small Business Management I **AND**	
CST 134	(3)	Micro Computers in Business Using MS Office	
		OR	
ENT 131W	(3)	Entrepreneurship/Small Business Management I **AND**	
PHL 203W	(3)	Business Ethics	

MGT 110	3	Business Mathematics	_____
MGT 145	3	Principles of Sales	_____
MGT 153W	3	Introduction to Business	_____
MGT 245	3	Principles of Management	_____
MGT 251W	3	Business Law I	_____
	49	**SUBTOTAL**	
	64/68	**TOTAL CREDITS**	

1. A minimum grade of "C" (2.0) or higher is required in ENT 131W and ENT 231W or ENT 131W and CST 134 or ENT 131W and PHL 203W, MGT 110, MGT 153W, MGT 245, MGT 251W, OAT 151 and OAT 152 or ENG 111 and ENG 112 or ENG 111 and ENG 113
2. You may be granted 20 credits approved by the Delta College Business Information and Technology Division Chair upon verification of the proper evidence of a current Michigan State Board of Cosmetology License.
3. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
4. Delta College reserves the right to modify graduation requirements.

Management - Entrepreneurship-Small Business Management - Advanced Certificate

Program Code: CBA.35263

This certificate is designed for those planning to work in a small business, or currently managing a small business who want to enhance their skill sets. If you are interested in managing your own business you may want to consider the Entrepreneurship Program in this section.

Core Courses

Course	Credits	Course Title	Completed
ACC 121	4	Accounting for Managers **OR**	
ACC 211	(4)	Principles of Accounting I	
CST 134	3	Micro Computers in Business Using MS Office	
CST 147	2	Presentation Graphics Using PowerPoint	
ENT 131W	3	Entrepreneurship/Small Business Management I	
ENT 231W	3	Entrepreneurship/Small Business Management II	
MGT 145	3	Principles of Sales	
MGT 243	3	Principles of Marketing	
MGT 251W	3	Business Law I	
MGT 256	3	Human Resources Management I	
	27		

THIS CERTIFICATE IS PART OF A LADDERED PROGRAM. CREDITS EARNED MAY BE APPLIED TOWARDS COMPLETION OF THE MANAGEMENT-ENTREPRENEURSHIP/SMALL BUSINESS MANAGEMENT - ASSOCIATE DEGREE.

27 TOTAL CREDITS

1. A minimum grade of "C" (2.0) or higher is required in CST 134, MGT 243, AND MGT 251.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Managemnt Sml Bus Adv Cert**

Managemnt Sml Bus Adv Cert

Total Program Cost (In District):	$3,625.00
On-Time Completion Rate:	91.70%
Program Job Placement Rate:	NA
Median Loan Dept:	$0.00

Management - Entrepreneurship-Small Business Management - Associate in Business Studies

Program Code: ABS.10262

This degree is designed for those planning to work in a small business, or currently managing a small business who want to enhance their skill sets. If you are interested in managing your own business you may want to consider the Entrepreneurship Program in this section.

General Education Courses

Course	Credits	Course Title	Completed
ECN 221W	4	Principles of Macroeconomics	
LW ---	1	Any 1 Credit LW Course (As of fall 2007) **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
OAT 151	3	Business Communication I **AND**	
OAT 152	3	Business Communication II	
		OR	
OAT 151	(3)	Business Communication I **AND**	
ENG 111	(3)	College Composition I **AND**	
ENG 112	(3)	College Composition II	
		OR	
OAT 151	(3)	Business Communication I **AND**	
ENG 111	(3)	College Composition I **AND**	
ENG 113	(3)	Technical Communication	
POL ---	3/4	Any Approved American Government Requirement	
	15/19	**SUBTOTAL**	

Core Courses

Course	Credits	Course Title	Completed
ACC 121	4	Accounting for Managers	
		OR	
ACC 211	(4)	Principles of Accounting I	
CST 133W	4	Computer Concepts & Competencies	
CST 134	3	Micro Computers in Business Using MS Office	
CST 147	2	Presentation Graphics Using PowerPoint	
ENT 131W	3	Entrepreneurship/Small Business Management I	
ENT 231W	3	Entrepreneurship/Small Business Management II	
MGT 110	3	Business Mathematics	
MGT 145	3	Principles of Sales	
MGT 153W	3	Introduction to Business	
MGT 243	3	Principles of Marketing	
MGT 245	3	Principles of Management	
MGT 251W	3	Business Law I	
MGT 252	3	Business Law II	
MGT 256	3	Human Resources Management I	
	6	Business Approved Electives	
	49	**SUBTOTAL**	
	64/68	**TOTAL CREDITS**	

1. A minimum grade of “C” (2.0) or higher is required in CST 134, MGT 110, MGT 153w, MGT 245, OAT 151 and OAT 152 or ENG 111 and ENG 112 or ENG 111 and ENG 113

2. Business Approved Electives are any MGT 200-level courses not already required in the degree program.
3. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
4. Delta College reserves the right to modify graduation requirements.

Management - General Management - Associate in Business Studies

Program Code: ABS.10254

This degree is designed to provide a basic foundation in the major functional areas of business management and allows you to structure an individual program that will meet your own needs. This degree option may be completed online.

General Education Courses

Course	Credits	Course Title	Completed
ECN 221W	4	Principles of Macroeconomics	
LW ---	1	Any 1 Credit LW Course (As of fall 2007) **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
OAT 151	3	Business Communication I **AND**	
OAT 152	3	Business Communication II	
		OR	
OAT 151	(3)	Business Communication I **AND**	
ENG 111	(3)	College Composition I **AND**	
ENG 112	(3)	College Composition II	
		OR	
OAT 151	(3)	Business Communication I **AND**	
ENG 111	(3)	College Composition I **AND**	
ENG 113	(3)	Technical Communication	
POL ---	3/4	Any Approved American Government Requirement	
	15/19	**SUBTOTAL**	

Core Courses

Course	Credits	Course Title	Completed
ACC 211	4	Principles of Accounting I	
ACC 212	4	Principles of Accounting II	
CST 133W	4	Computer Concepts & Competencies	
CST 147	2	Presentation Graphics Using PowerPoint	
CST 155	3	Microsoft EXCEL	
MGT 110	3	Business Mathematics	
MGT 153W	3	Introduction to Business	
MGT 243	3	Principles of Marketing	
MGT 245	3	Principles of Management	
MGT 251W	3	Business Law I	
MGT 252	3	Business Law II	
MGT 256	3	Human Resources Management I	
MGT 265	3	International Business	
MGT 275	3	Management Seminar	
	3	Business Approved Electives	
	47	**SUBTOTAL**	
	62/66	**TOTAL CREDITS**	

1. A minimum grade of "C" (2.0) or higher is required in MGT 110, MGT 153W, MGT 243, MGT 251W, MGT 252, MGT 256, MGT 275, OAT 151 and OAT 152 or ENG 111 and ENG 112 or ENG 111 and ENG 113
2. OAT 152 cannot be completed as part of the online option.
3. Contact the Health & Wellness Division for information on completing LWA credit through individual instruction to complete the General Management degree option online.
4. Business Approved Electives are any MGT 200-level courses not already required in the degree program.
5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
6. Delta College reserves the right to modify graduation requirements.

Management - Marketing Management - Associate in Business

Program Code: ABS.10256

This degree is designed to prepare you for a career in the field of marketing. As a graduate you will have studied the basics of: advertising from the marketing usage point of view; consumer behavior relating to buying; merchandising policies, budgets and planning; sales; retail organizational structure; product promotion and distribution.

General Education Courses

Course	Credits	Course Title	Completed
ECN 221W	4	Principles of Macroeconomics	
LW ---	1	Any 1 Credit LW Course (As of fall 2007) **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
OAT 151	3	Business Communication I **AND**	
OAT 152	3	Business Communication II	
		OR	
OAT 151	(3)	Business Communication I **AND**	
ENG 111	(3)	College Composition I **AND**	
ENG 112	(3)	College Composition II	
		OR	
OAT 151	(3)	Business Communication I **AND**	
ENG 111	(3)	College Composition I **AND**	
ENG 113	(3)	Technical Communication	
POL ---	3/4	Any Approved American Government Requirement	
	15/19	**SUBTOTAL**	

Core Courses

Course	Credits	Course Title	Completed
ACC 121	4	Accounting for Managers	
		OR	
ACC 211	(4)	Principles of Accounting I	

CST 133W	4	Computer Concepts & Competencies	_____
CST 134	3	Micro Computers in Business Using MS Office	_____
CST 147	2	Presentation Graphics Using PowerPoint	_____
MGT 110	3	Business Mathematics	_____
MGT 143	3	Principles of Advertising	_____
MGT 145	3	Principles of Sales	_____
MGT 153W	3	Introduction to Business	_____
MGT 243	3	Principles of Marketing	_____
MGT 245	3	Principles of Management	_____
MGT 247	3	Principles of Retailing	_____
MGT 251W	3	Business Law I	_____
MGT 254	3	Applied Marketing	_____
MGT 265	3	International Business	_____
	4	Business Approved Electives	_____
	47	**SUBTOTAL**	
	62/66	**TOTAL CREDITS**	

1. A minimum grade of "C" (2.0) or higher is required in CST 134, MGT 110, MGT 153W, MGT 243, MGT 245, MGT 247, MGT 251W, OAT 151 and OAT 152 or ENG 111 and ENG 112 or ENG 111 and ENG 113
2. Business Approved Electives are any MGT 200-level courses not already in the degree program.
3. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
4. Delta College reserves the right to modify graduation requirements.

Management - Office Services Management - Advanced Certificate

Program Code: CBA.35258

This certificate is designed to provide office operations management skills such as: developing and managing systems for office procedures; report and data compilation; filing and record keeping; information gathering techniques; personnel administration.

Core Courses

Course	Credits	Course Title	Completed
ACC 121	4	Accounting for Managers **OR**	
ACC 211	(4)	Principles of Accounting I	
CST 105	1	Outlook	
CST 134	3	Micro Computers in Business Using MS Office	
CST 151	2	Spreadsheet Fundamentals	
CST 257	3	Database MS Access	
MGT 256	3	Human Resources Management I	
OAT 155W	2	Editing	
OAT 157	2	File Management	
OAT 170	2	Keyboarding	
OAT 171	3	Document Processing: Beginning	

THIS CERTIFICATE IS PART OF A LADDERED PROGRAM. CREDITS EARNED MAY BE APPLIED TOWARDS COMPLETION OF A MANAGEMENT - OFFICE SERVICES MANAGEMENT - ASSOCIATE IN BUSINESS STUDIES DEGREE.

25 TOTAL CREDITS

1. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
2. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Office Services Management Adv Cert**

Office Services Management Adv Cert

Total Program Cost (In District):	$3,481.20
On-Time Completion Rate:	NA
Program Job Placement Rate:	NA
Median Loan Dept:	NA

Management - Office Services Management - Associate in Business Studies

Program Code: ABS.10258

This degree is designed to provide office operations management skills such as: developing and managing systems for office procedures; report and data compilation; filing and record keeping; information gathering techniques; personnel administration.

General Education Courses

Course	Credits	Course Title	Completed
ECN 221W	4	Principles of Macroeconomics	
LW ---	1	Any 1 Credit LW Course (As of fall 2007) **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
OAT 151	3	Business Communication I **AND**	
OAT 152	3	Business Communication II	
		OR	
OAT 151	(3)	Business Communication I **AND**	
ENG 111	(3)	College Composition I **AND**	
ENG 112	(3)	College Composition II	
		OR	
OAT 151	(3)	Business Communication I **AND**	
ENG 111	(3)	College Composition I **AND**	
ENG 113	(3)	Technical Communication	
POL ---	3/4	Any Approved American Government Requirement	
	15/19	**SUBTOTAL**	

Core Courses

Course	Credits	Course Title	Completed
ACC 121	4	Accounting for Managers	
		OR	
ACC 211	(4)	Principles of Accounting I	
CST 105	1	Outlook	
CST 133W	4	Computer Concepts & Competencies	
CST 134	3	Micro Computers in Business Using MS Office	
CST 151	2	Spreadsheet Fundamentals	
CST 257	3	Database MS Access	
MGT 110	3	Business Mathematics	
MGT 153W	3	Introduction to Business	
MGT 245	3	Principles of Management	
MGT 251W	3	Business Law I	
MGT 256	3	Human Resources Management I	
OAT 155W	2	Editing	
OAT 157	2	File Management	
OAT 170	2	Keyboarding	
OAT 171	3	Document Processing: Beginning	
	6	General Electives	
	47	**SUBTOTAL**	
	62/66	**TOTAL CREDITS**	

1. A minimum grade of "C" (2.0) or higher is required in MGT 110, MGT 153W, MGT 245, MGT 251W and OAT 151 and OAT 152 or ENG 111 and ENG 112 or ENG 111 and ENG 113

2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Management - Retail Management - Advanced Certificate

Program Code: CBA.35260

This certificate is designed to provide skills related to the distribution of merchandise and services within a retail store through buying procedures, inventory control and pricing; marketing processes and functions; advertising strategies.

Core Courses

Course	Credits	Course Title	Completed
ACC 121	4	Accounting for Managers **OR**	
ACC 211	(4)	Principles of Accounting I	
CST 147	2	Presentation Graphics Using PowerPoint	
MGT 143	3	Principles of Advertising	
MGT 145	3	Principles of Sales	
MGT 151	3	Visual Merchandising	
MGT 243	3	Principles of Marketing	
MGT 247	3	Principles of Retailing	
MGT 248	3	Principles of Buying for Resale	
MGT 251W	3	Business Law I	
MGT 256	3	Human Resources Management I	

THIS CERTIFICATE IS PART OF A LADDERED PROGRAM. CREDITS EARNED MAY BE APPLIED TOWARDS COMPLETION OF A MANAGEMENT - RETAIL MANAGEMENT - ASSOCIATE IN BUSINESS STUDIES DEGREE.

30 TOTAL CREDITS

1. A minimum grade of "C" (2.0) or higher is required in MGT 151, MGT 243, MGT 251W and MGT 256.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Retail Management Adv Cert**

Retail Management Adv Cert

Total Program Cost (In District):	$3,625.00
On-Time Completion Rate:	NA
Program Job Placement Rate:	NA
Median Loan Dept:	NA

Management - Retail Management - Associate in Business Studies

Program Code: ABS.10260

This degree is designed to provide skills related to the distribution of merchandise and services within a retail store through buying procedures, inventory control and pricing; marketing processes and functions; advertising strategies.

General Education Courses

Course	Credits	Course Title	Completed
ECN 221W	4	Principles of Macroeconomics	
LW ---	1	Any 1 Credit LW Course (As of fall 2007) **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
OAT 151	3	Business Communication I **AND**	
OAT 152	3	Business Communication II	
		OR	
OAT 151	(3)	Business Communication I **AND**	
ENG 111	(3)	College Composition I **AND**	
ENG 112	(3)	College Composition II	
		OR	
OAT 151	(3)	Business Communication I **AND**	
ENG 111	(3)	College Composition I **AND**	
ENG 113	(3)	Technical Communication	
POL ---	3/4	Any Approved American Government Requirement	
	15/19	**SUBTOTAL**	

Core Courses

Course	Credits	Course Title	Completed
ACC 121	4	Accounting for Managers **OR**	
ACC 211	(4)	Principles of Accounting I	
CST 133W	4	Computer Concepts & Competencies	
CST 147	2	Presentation Graphics Using PowerPoint	
MGT 110	3	Business Mathematics	
MGT 152	3	Textiles	
MGT 153W	3	Introduction to Business	
MGT 245	3	Principles of Management	
MGT 247	3	Principles of Retailing	
MGT 251W	3	Business Law I	
MGT 254	3	Applied Marketing	
MGT 256	3	Human Resources Management I	
	34	**SUBTOTAL**	

Required Electives (Select 15 credits from below)

Course	Credits	Course Title	Completed
MGT 143	3	Principles of Advertising	
MGT 145	3	Principles of Sales	
MGT 151	3	Visual Merchandising	
MGT 243	3	Principles of Marketing	
MGT 248	3	Principles of Buying for Resale	
MGT 256	3	Human Resources Management I	
	15	**SUBTOTAL**	
	64/68	**TOTAL CREDITS**	

1. A minimum grade of "C" (2.0) or higher is required in MGT 110, MGT 151,MGT 153W, MGT 243, MGT 245, MGT 251W, MGT 256, OAT 151, and OAT 152 (or ENG equivalents).
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Management - Subsequent Degree - Business Management - Associate in Business Studies

Program Code: ABS.10255

Students who already have an Associate or Bachelor Degree from a regionally accredited institution must have 24 credits by instruction at Delta College. Accordingly, the minimum number of credits earned must equal the credits required for the first degree plus 24.

Core Courses

Course	Credits	Course Title	Completed
ACC 121	4	Accounting for Managers	
		OR	
ACC 211	(4)	Principles of Accounting I	
ACC 212	4	Principles of Accounting II	
CST 133W	4	Computer Concepts & Competencies	
		OR	
CST 134	(3)	Micro Computers in Business Using MS Office	
ECN 221W	4	Principles of Economics I	
MGT 153W	3	Introduction to Business	
MGT 243	3	Principles of Marketing	
MGT 245	3	Principles of Management	
MGT 251W	3	Business Law I	
MGT 256	3	Human Resources Management I	
MGT 265	3	International Business	
--- ---	3	Business Electives	
OAT 151	3	Business Communication I	
	24	**TOTAL CREDITS**	

1. Included in the 24 credits will be at least one computer course, one accounting course and MGT 245.
2. Official transcript documenting previous degree will have to be on file in Records and Registration.
3. Completion of the above classes will give you an Associate Degree in Business Management from Delta College. Some of the above credits may have been earned on an earlier degree, the minimum number of credits earned must equal the credits required for the first degree plus 24.
4. Contact the Delta College Counseling Office at 686-9330 for more information.
5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
6. Delta College reserves the right to modify graduation requirements.

Management/Subsequent Degree - Northwood 3+1 - Associate in Business Studies

Program Code: ABS.85005

Students who already have an Associate Degree in any field, (other than management programs) from a regionally accredited institution, who wish to obtain a Bachelor Degree in Management through the Delta College-Northwood partnership must complete the following Delta classes and then complete their senior year at Northwood.

Core Courses

Course	Credits	Course Title	Completed
ACC 211	4	Principles of Accounting I	
ACC 212	4	Principles of Accounting II	
CST 133W	4	Computer Concepts & Competencies	
ECN 221W	4	Principles of Economics I	
ECN 222W	4	Principles of Economics II	
MGT 153W	3	Introduction to Business	
MGT 243	3	Principles of Marketing	
MGT 245	3	Principles of Management	
MGT 251W	3	Business Law I	
MTH 208W	3	Elementary Statistics	
PHL 203W	3	Business Ethics	
		OR	
PHL 215W	(3)	Health Care Ethics	
		OR	
PHL 230	(2)	Bioethics for Nursing	
	24	**TOTAL CREDITS**	

1. Official transcript documenting previous degree will have to be on file in Records and Registration.
2. Completion of the above classes will give you an Associate Degree in Business Management from Delta College. Some of the above credits may have been earned on an earlier degree, the minimum number of credits earned must equal the credits required for the first degree plus 24.
3. Contact the Delta College Counseling Office at 686-9330 for more information.
4. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
5. Delta College reserves the right to modify graduation requirements.
6. If you plan to pursue an advanced degree, see pages ADVANVED_DEGREE_PAGES for special transfer agreements.

Manufacturing And Industrial Technology - Lean Manufacturing - Certificate of Achievement

Program Code: CTZ.35852

Companies need to effectively manage their value stream whether they are competing locally or on a global level. The focus of this certificate is to provide a person with the knowledge and skills to exam how a company can provide value to its customers while staying agile and competitive. It looks at the tools and techniques of value creation and waste reduction within manufacturing organizations while optimizing the company's resources.

Core Courses

Course	Credits	Course Title	Completed
MIT 111W	3	Manufacturing Processes	
MIT 118	2	Safety Practices and Procedures	
MIT 210	3	Lean Thinking Strategies	
MIT 212	2	Manufacturing Cell	
MTH ---	4	Any Approved Intermediate Algebra Course	
MTH 208W	3	Elementary Statistics	
QA 125	3	Quality System Design	
QA 244	3	Statistical Process Control	

23 TOTAL CREDITS

1. A Grade of "C" (2.0) or higher is required in all courses for the certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.
4. If you plan to pursue an advanced degree, see pages ADVANVED_DEGREE_PAGES for special transfer agreements.

Manufacturing And Industrial Technology - MIT Supervisor - Certificate of Achievement

Program Code: CTZ.35850

Work, in an industrial setting, is accomplished through the actions of skilled, knowledgeable people. The ability to provide leadership and management expertise in such an environment while efficiently utilizing resources to accomplish the organization's goals requires its own set of skills. Teamwork, safety requirements, and the increasing diversity of the workforce are just a few of the issues today's supervisors need to effectively respond to in order to as they accomplish work in an organization. This certificate is designed to increase the knowledge and skills of supervisors so they can manage their resources in order to meet the company's goals.

Core Courses

Course	Credits	Course Title	Completed
COM 114W	3	Interpersonal Communication	
COM 202W	3	Oral Communication for Managers	
MGT 245	3	Principles of Management	
MGT 256	3	Human Resources Management I	
MIT 118	2	Safety Practices and Procedures	
MIT 210	3	Lean Thinking Strategies	
QA 244	3	Statistical Process Control	

20 TOTAL CREDITS

1. A Grade of "C" (2.0) or higher is required in all courses for the certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.
4. If you plan to pursue an advanced degree, see pages ADVANVED_DEGREE_PAGES for special transfer agreements.

Manufacturing And Industrial Technology - Associate in Applied Science

Program Code: AAS.15851

Manufacturing continues to advance by cutting across all disciplines in order to drive economic growth. This program is designed to give you the flexibility to acquire the knowledge and skills needed in this rapidly changing area. You will be able to develop a broad understanding of issues facing manufacturing today while also focusing on a specific area. As a manufacturing technologist, you will need to understand the interrelationships of materials selection and manufacturing processes in order to operate competitively in a global economy. You will also need to understand the roles quality, cost, delivery, safety and morale play in a successful manufacturing company. Teamwork, problem solving, and communication skills will be emphasized because of the importance they play in your success in the company. You will have experience with automated systems and robotic applications. You will need to be able to use computers to control and monitor processes and for communicating with team members, customers, suppliers, and others both internally and externally. Refer to www.delta.edu/tech for more information.

General Education

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course	
ENG 113	3	Technical Communication	
MTH ---	4	Any Approved Intermediate Algebra Course	
LW ---	1	Any 1 Credit LW Course (As of fall 2007) **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
		OR	
LW 223W	(2)	Wellness in Technical Trades	
POL ---	3/4	Any Approved American Government Requirement	
--- ---	4	Approved Natural Science with Lab (Refer to Group III Graduation Requirements)	
	19/20	**SUBTOTAL**	

Core Courses

Course	Credits	Course Title	Completed
CAD 114	3	Introduction to CAD	
CAD 120	3	Introduction to CAM	
CAD 226	3	3D Parametric Solid Modeling	
CNC 162	4	Computer Numerical Control Theory	
CNC 225	4	Mastercam	
DRF 121	3	Blueprint Reading	
		OR	
SKDR 101	(3)	Blueprint Reading	
EET 235	3	Electrical Circuits	
ET 162	3	Industrial Robotics I	
MIT 111W	3	Manufacturing Processes	
MIT 118	2	Safety Practices and Procedures	
MIT 240	3	Manufacturing and Industrial Technology Capstone	
MS 113	2	Introduction to Machining Processes	
MS 181W	4	Machine Tools I	
MT 220	3	Introduction to Fluid Power	
MT 221W	3	Introduction to Engineering Materials	
	46	**SUBTOTAL**	
	65/66	**TOTAL CREDITS**	

1. A Grade of "C" (2.0) or higher is required in CAD 114, CAD 120, CAD 226, CNC 162, CNC 225, DRF 121, EET 235, MIT 111W, MIT 118, MIT 240, MS 181W, MT 220, MT 221W, and SKDR 101.
2. CAD 114, CAD 226, and CNC 225 are key courses and must be completed within 5 years of completing the degree. Failure to complete within the stated time frame will require you to repeat this course. See section 4 of the College Catalog "Academic Policies/Graduation Requirements."

3. The capstone class, MIT 240, is required for graduation. Students must request approval from the program coordinator to apply for capstone course one (1) semester prior to enrollment.
4. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
5. Delta College reserves the right to modify graduation requirements.

Massage Therapy - Certificate of Achievement

Program Code: CHA.35589

The Massage Therapy Program is designed for graduates of fully accredited PTA Programs, OTR's, and for the licensed PT, RN, and PN. This program has been developed to build on your previous academic background, and current clinical practice. While completing this certificate program, you will be trained in Swedish Massage, Sports Massage, Trigger Point Therapy, Muscle Isolation Techniques, Myofascial Release, Reflexology, Chair Massage, Acupressure, Basic Shiatsu, Business and Marketing, and Ethics. Potential work settings include: chiropractic and physician offices, sports medicine clinics, aerobic studios, beauty salons, health spas, gyms, on-site corporate massage, or your own independent business. Upon successfully completing this program, you will be certified to practice massage in Michigan as a certified massage therapist (CMT), and be able to sit for the National Certification Examination in Therapeutic Massage and Bodywork.

Core Courses

Course	Credits	Course Title	Completed
MTP 301	6	Manual Techniques I	

6 TOTAL CREDITS

1. A maximum of 14 students will be accepted each into the Massage Therapy Program. Acceptance into the program is granted by permission of instructor.
2. Prerequisite Qualifications are: a) be admitted to Delta College; and b) provide documentation of a current Practical Nurse License.
3. An application packet will provide evidence of prerequisite related coursework acquired through a previous formal training program. A minimum number of classroom hours are required in each of the following subject/content areas:
   *Anatomy and Physiology - 150 Hours
   *Bed Mobility, Transfers, Positioning, and Draping - 8 Hours
   *Body Mechanics - 2 Hours
   *Universal Precautions, Sterile Techniques, Hygiene Standards, Infectious Diseases, and Infection Control - 5 Hours
   *Disease and Pathology - 40 Hours
   *Professional Communication and Documentation - 10 Hours
   *Patient and Client Assessment Skills - 40 Hours

   A specific form will be provided to you in the application packet that you will use to address these prerequisite areas.
   The Program Coordinator reserves the right to deny enrollment into the program if prerequisite coursework does not meet established minimum requirements.
4. Program Costs: Students will be required to purchase/provide the following: 1) textbooks; 2) student handbook; 3) table linens; 4) massage creams and/or oils; 5) current malpractice insurance; and 6) current CPR certification (for admission to and must be maintained throughout the program.).
5. Massage Therapy Program course if offered in a combination of weekday and weekend hours, in short/intensive time frames, to accommodate the working professional. Due to these condensed time frames, attendance is mandatory at all sessions in order to successfully complete the course. Makeup classes will occur at the discretion of the instructor. A minimum grade of "C" or 77% is required to successfully complete the course.
6. Students must have their official transcripts sent directly to the Admissions office.
7. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
8. Delta College reserves the right to modify graduation requirements.

Massage Therapy - Post Associate Certificate

Program Code: CHP.35588

The Massage Therapy Program is designed for graduates of fully accredited PTA Programs, OTR's, and for the licensed PT, RN, and PN. This program has been developed to build on your previous academic background, and current clinical practice. While completing this certificate program, you will be trained in Swedish Massage, Sports Massage, Trigger Point Therapy, Muscle Isolation Techniques, Myofascial Release, Reflexology, Chair Massage, Acupressure, Basic Shiatsu, Business and Marketing, and Ethics. Potential work settings include: chiropractic and physician offices, sports medicine clinics, aerobic studios, beauty salons, health spas, gyms, on-site corporate massage, or your own independent business. Upon successfully completing this program, you will be certified to practice massage in Michigan as a certified massage therapist (CMT), and be able to sit for the National Certification Examination in Therapeutic Massage and Bodywork.

Core Courses

Course	Credits	Course Title	Completed
MTP 301	6	Manual Techniques I	_____
	6	**TOTAL CREDITS**	

1. A maximum of 14 students will be accepted into the Massage Therapy Program. Acceptance into the program is granted by permission of instructor.
2. Prerequisite Qualifications are: a) be admitted to Delta College; and b) provide documentation reflecting one of the following: Graduation from a CAPTE accredited PTA Program, or Michigan Registered Occupational Therapist with current registration, or Michigan licensed PT or RN, with current license.
3. An application packet, evidence of prerequisite related coursework acquired through their previous formal training program. A minimum number of classroom hours are required in each of the following subject/content areas:
   *Anatomy and Physiology - 150 Hours
   *Bed Mobility, Transfers, Positioning, and Draping - 8 Hours
   *Body Mechanics - 2 Hours
   *Universal Precautions, Sterile Techniques, Hygiene Standards, Infectious Diseases, and Infection Control - 5 Hours
   *Disease and Pathology - 40 Hours
   *Professional Communication and Documentation - 10 Hours
   *Patient and Client Assessment Skills - 40 Hours

   A specific form will be provided to you in the application packet that you will use to address these prerequisite areas.
   The Program Coordinator reserves the right to deny enrollment into the program if prerequisite coursework does not meet established minimum requirements.
4. Program Costs: Students will be required to purchase/provide the following: 1) textbooks; 2) student handbook; 3) table linens; 4) massage creams and/or oils; 5) current malpractice insurance; and 6) current CPR certification (for admission to and must be maintained throughout the program.).
5. Massage Therapy Program course if offered in a combination of weekday and weekend hours, in short/intensive time frames, to accommodate the working professional. Due to these condensed time frames, attendance is mandatory at all sessions in order to successfully complete the course. Makeup classes will occur at the discretion of the instructor. A minimum grade of "C" or 77% is required to successfully complete the course.
6. Students must have their official transcripts sent directly to the Admissions office.
7. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
8. Delta College reserves the right to modify graduation requirements.

Mechanical Engineering Technology - Associate in Applied Science

Program Code: AAS.15822

This program provides you with a sufficient broad base in the fundamentals of mechanical technology, drafting, CAD, manufacturing and design to be successful as a mechanical engineering technician in a metallurgical or product test laboratory, as a field technician, as an engineering aide in manufacturing or product engineer, in quality control, or in sales and service. Responsibilities as a lab technician may include not only setting up a test apparatus and running tests on an experimental product, but also writing the report and making recommendations.

General Education Courses

Course	Credits	Course Title	Completed
CHM 101W	5	General Chemistry I **OR**	
CHM 107	(4)	Chemistry for Engineering Technology **OR**	
CHM 111	(5)	General and Inorganic Chemistry I	
ENG ---	3	Any Approved College Composition I Course	
ENG 113	3	Technical Communication	
GEO 116W	1	Professional Global Awareness	
LW ---	1	Any 1 Credit LW Course (As of fall 2007) **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
MTH ---	4	Any Approved Intermediate Algebra Course	
MTH 121	3	Plane Trigonometry	
MTH 208W	3	Elementary Statistics	
PHL 213W	3	Introduction to Ethics	
PHY 111	4	General Physics I	
POL ---	3/4	Any Approved American Government Requirement	
	33/35	**SUBTOTAL**	

Required Core Courses

Course	Credits	Course Title	Completed
ACE 285W	1	Internship: Design Technology	
EET 235	3	Electrical Circuits	
EGR 165	4	Introduction to Engineering Graphics **OR**	
EGR 166	(4)	Engineering Graphics **OR**	
DRF 257	(4)	Advanced Mechanical Design	
MIT 111W	3	Manufacturing Processes	
MT 221W	3	Introduction to Engineering Materials	
MS 181W	4	Machine Tools I	
MT 220	3	Hydraulics & Pneumatics I	
MT 250	4	Statics and Strength of Materials	
MT 256	3	Machine Design	
	28	**SUBTOTAL**	

Elective Courses (Choose 12 credits)

Course	Credits	Course Title	Completed
CAD 114	3	Introduction to CAD	
CAD 120	3	Introduction to CAM	
CAD 226	3	3D Parametric Solid Modeling	
CNC 162	4	Computer Numerical Control Theory	
CNC 216	4	CNC with Machining Applications	
CNC 225	4	Mastercam	
CPI 110	2	Introduction To Chemical Process Industries	
CPI 120	2	Introduction To Process Operations	
DRF 107	3	Intermediate mechanical Design	
DRF 121	3	Blueprint Reading	
DRF 128	2	Geometric Tolerancing	
ET 122	4	Programmable Logic Controllers	
ET 162	3	Industrial Robotics I	
ET 262	3	Industrial Robotics II	
MGT 153W	3	Introduction to Business	
MIT 118	2	Safety Practices and Procedures	
	12	**SUBTOTAL**	
	73/75	**TOTAL CREDITS**	

1. A grade of “C” (2.0) or higher is required in all courses for the degree.
2. CAD 114, CAD 226, DRF 107, DRF 257, EGR 165/EGR 166 are Key courses must be completed within 5 years of completing certificate or degree. Failure to complete within the stated time frame will require you to repeat this course. See graduation requirements page.
3. In a laddered program, ACE 285W is only required to be taken one time.
4. CAD/DRAFTSMAN CAREER TRACK: Suggested Elective courses: CAD 114, CAD 226, DRF 107, DRF 121, DRF 128, DRF 257.
5. INDUSTRIAL ROBOTICS CAREER TRACK: Suggested Elective courses: CNC 162, ET 122, ET 162, ED 262, MIT 118.
6. CHEMICAL MANUFACTURING CAREERTRACK: Suggested Elective courses: CPI 110, CPI 120, MIT 118.
8. ENGINEERING CAD/CAM CAREER TRACK: Suggested Elective courses: CAD 120, CNC 162, CNC 216, CNC 225 MIT 118.
8. File an application for an associate or dual degree and/or certificate with the Registrar’s Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
9. Delta College reserves the right to modify graduation requirements.

Medical Office Professions - Health Insurance Coding and Claims Specialist - Advanced Certificate

Program Code: CBA.35286

The efficiency of a medical office and the quality of medical care provided depend in large part upon the staff members who supplement and support the role of the physician. As a medical office staff member, you must have strong communication skills, organizational ability, computer knowledge, and excellent human relations skills.

Health insurance coding and claims specialists accurately report physician services for reimbursement to patients' insurance companies. They are also required to understand the legal responsibilities of medical office staff members.

This certificate has a common core of classes that is also required for the Medical Transcription Specialist/Advanced Certificate and the Medical Secretary/Associate in Business Studies Degree. Those core classes include BIO 101, HSC 105, HSC 205, HSC 210, OAT 105, and OAT 151.

Core Courses

Course	Credits	Course Title	Completed
BIO 101W	4	Introduction to Anatomy And Physiology	
HSC 105	2	Medical Terminology	
HSC 205W	2	Legal Aspects of the Health Care System	
HSC 210	1	Medical Office Pharmacology	
OAT 105W	1	Time Management	
OAT 116	2	Introduction to the Medical Office	
OAT 151	3	Business Communication I	
OAT 171	3	Document Processing: Beginning	
OAT 243	3	Diagnostic Coding	
OAT 244	3	Procedure Coding	
OAT 254	3	Medical Insurance I	
OAT 255	3	Medical Insurance II	

30 TOTAL CREDITS

1. A grade of "C" (2.0) or higher is required in the following courses: BIO 101, HSC 105, OAT 151, OAT 171, OAT 243, OAT 244, OAT 254, and OAT 255.
2. BIO 101, HSC 105, HSC 205, OAT 171, OAT 243, OAT 244, OAT 254, and OAT 255 are Key courses and must be completed within 5 years of completing certificate. Failure to complete within the stated time frame will require you to repeat this course. See graduation requirements page in catalog.
3. OAT 170 with a "B" grade or better is a prerequisite for OAT 171.
4. Keyboarding waiver test is available for OAT 170. Contact the BIT Division office, 989-686-9127, to arrange for waiver test.
5. Credit by exam is available for OAT 105W, OAT 151 and OAT 171. Contact the Assessment Testing office, 989-686-9182, to arrange for credit by exam test.
6. HSC 105 and one of the following: BIO 101, BIO 131, BIO 132, BIO 140, BIO 152, BIO 153, BIO 160, or BIO 240, both with a minimum grade of "C" (2.0) are prerequisites for HSC 210.
7. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
8. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Med Ofc Prof Hlth Ins Cdng Adv Cert**

Med Ofc Prof Hlth Ins Cdng Adv Cert

Total Program Cost (In District):	$4,056.40
On-Time Completion Rate:	69.70%
Program Job Placement Rate:	50.00%
Median Loan Dept:	$0.00

Medical Office Professions - Medical Transcription Specialist - Advanced Certificate

Program Code: CBA.35285

The efficiency of a medical office and the quality of medical care provided depend in large part upon the staff members who supplement and support the role of the physician. As a medical office staff member, you must have strong communication skills, organizational ability, computer knowledge, and excellent human relations skills.

Medical transcription specialists enter patient care documentation into medical records as well as complete physicians' correspondence and reports. They are also required to understand the legal responsibilities of medical office staff members.

This certificate has a common core of classes that is also required for the Health Insurance Coding and Claims Specialist/Advanced Certificate and the Medical Secretary/Associate in Business Studies Degree. Those core classes include BIO 101, HSC 105, HSC 205, HSC 210, OAT 105, and OAT 151.

Course	Credits	Course Title	Completed
BIO 101W	4	Introduction to Anatomy And Physiology	
HSC 105	2	Medical Terminology	
HSC 205W	2	Legal Aspects of the Health Care System	
HSC 210	1	Medical Office Pharmacology	
OAT 105W	1	Time Management	
OAT 151	3	Business Communication I	
OAT 171	3	Document Processing: Beginning	
OAT 172	3	Document Processing: Intermediate	
OAT 260	3	Medical Transcription: Beginning	
OAT 262	3	Medical Transcription: Intermediate	

25 TOTAL CREDITS

1. A grade of "C" (2.0) or higher is required in courses: BIO 101, HSC 105, OAT 151, OAT 171, OAT 172, OAT 260, and OAT 262.
2. BIO 101, HSC 105, HSC 205, OAT 171, OAT 172, OAT 260, and OAT 262 are Key courses and must be completed within 5 years of completing certificate. Failure to complete within the stated time frame will require you to repeat this course. See graduation requirements page in catalog.
3. HSC 105 and one of the following: BIO 101, BIO 131, BIO 132, BIO 140, BIO 152, BIO 153, BIO 160, BIO 240, both with a minimum grade of "C" (2.0) are prerequisites for HSC 210.
4. Credit by exam is available for OAT 105W, OAT 151, OAT 171, and OAT 172.
5. OAT 170 with a "B" grade or better is a prerequisite for OAT 171. Keyboarding waiver test is available for OAT 170. Contact the BIT Division office, 989-686-9127, to arrange for waiver test.
6. OAT 262 is a fall-only offering.
7. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
8. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Med Ofc Prof Med Trans Spec Adv Cert**

Med Ofc Prof Med Trans Spec Adv Cert

Total Program Cost (In District):	$3,625.00
On-Time Completion Rate:	71.40%
Program Job Placement Rate:	0.00%
Median Loan Dept:	$0.00

Medical Office Professions - Medical Secretary - Associate in Business Studies

Program Code: ABS.10288

The efficiency of a medical office and the quality of medical care provided depend in large part upon the staff members who supplement and support the role of the physician. As a medical office staff member, you must have strong communication skills, organizational ability, computer knowledge, and excellent human relations skills.

Medical secretaries understand and use medical terminology; complete medical insurance claims; handle correspondence, medical records and physicians' dictation; greet and direct patients; and manage appointment schedules and the telephone. They are also required to understand the legal responsibilities of medical office staff members.

This certificate has a common core of classes that is also required for the Health Insurance Coding and Claims Specialist/Advanced Certificate and the Medical Transcription Specialist/Advanced Certificate. Those core classes include BIO 101, HSC 105, HSC 205, HSC 210, OAT 105, and OAT 151.

General Education Courses

Course	Credits	Course Title	Completed
LW ---	1	Any 1 Credit LW Course (As of fall 2007) **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
OAT 151	3	Business Communication I **AND**	
OAT 152	3	Business Communication II	
		OR	
OAT 151	(3)	Business Communication I **AND**	
ENG 111	(3)	College Composition I **AND**	
ENG 112	(3)	College Composition II	
		OR	
OAT 151	(3)	Business Communication I	
ENG 111	(3)	College Composition I	
ENG 113	(3)	Technical Communication	
POL ---	3/4	Any Approved American Government Requirement	
	11/15	**SUBTOTAL**	

Core Courses

Course	Credits	Course Title	Completed
BIO 101W	4	Introduction to Anatomy and Physiology	
CST 105	1	Outlook	
CST 151	2	Spreadsheet Fundamentals	
HSC 105	2	Medical Terminology	
HSC 140	2	Basic Medical Emergencies	
HSC 205W	2	Legal Aspects of the Health Care System	
HSC 210	1	Medical Office Pharmacology	
MGT 153W	3	Introduction to Business	
OAT 105W	1	Time Management	
OAT 116	2	Introduction to the Medical Office	
OAT 155W	2	Editing	
OAT 157	2	File Management	
OAT 171	3	Document Processing: Beginning	
OAT 172	3	Document Processing: Intermediate	
OAT 175	2	Electronic Calculation	
OAT 243	3	Diagnostic Coding	
OAT 244	3	Procedure Coding	
OAT 254	3	Medical Insurance I	
OAT 255	3	Medical Insurance II	
OAT 260	3	Medical Transcription: Beginning	
OAT 266	4	Medical Office Practice	
OAT 273	3	Document Processing: Advanced	
	54	**SUBTOTAL**	
	65/69	**TOTAL CREDITS**	

1. A grade of "C" (2.0) or higher is required in the following courses: BIO 101, CST 151, HSC 105, OAT 116, OAT 151, OAT 152, (OR ENG 111, 112, 113), OAT 172, OAT 243, OAT 244, OAT 254, OAT 255, OAT 260, OAT 266, OAT 273.
2. BIO 101, CST 105, CST 151, HSC 105, HSC 140, HSC 205, OAT 172, OAT 243, OAT 244, OAT 254, OAT 255, OAT 260, OAT 266, and OAT 273 are Key courses and must be completed within 5 years of completing certificate. Failure to complete within the stated time frame will require you to repeat this course. See graduation requirements page in catalog.
3. Credit by exam is available for CST 105, OAT 151, OAT 171, OAT 172, and OAT 175.
4. Keyboarded assignments required for OAT 151 and OAT 152.
5. OAT 175 and OAT 116 require MATH LEVEL 2.
6. OAT 170 with a "B" grade or better is a prerequisite for OAT 171.
7. HSC 105 and one of the following: BIO 101, BIO 131, BIO 132, BIO 140, BIO 152, BIO 153, BIO 160, or BIO 240, both with a minimum grade of "C" (2.0) are prerequisites for HSC 210. Keyboarding waiver test is available for OAT 170. Contact the BIT Division office, 989-686-9127, to arrange for waiver test.
8. OAT 266 is a winter-only offering. OAT 151, OAT 172, OAT 254, and OAT 260 with a C (2.0) grade minimum are the prerequisites for OAT 266.
9. CST 155 Microsoft Excel may be used to substitute for CST 151 Spreadsheet Fundamentals.
10. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
11. Delta College reserves the right to modify graduation requirements.

Nursing (ADN) - Associate in Applied Science

Program Code: AAS.20564

The ADN program prepares you to function effectively as a member of the health care team. This program requires a strong commitment to critical thinking, team collaboration, leadership, and development of sound clinical knowledge and skills. As a graduate nurse, you will be qualified for employment in structured settings: for example, acute care hospitals, extended care facilities, nursing homes, and clinics. Upon successfully completing this program, you are eligible to take the Registered Nurse licensure exam. This Delta College program is accredited by the National League for Nursing Accrediting Commission (3343 Peachtree Road NE, Suite 850, Atlanta, GA 30326; ph: 404-975-5000 , www.nlnac.org) and approved by the Michigan Board of Nursing.
You must have a GPA of 2.5 of higher in the following core courses for the program in order to qualify for validation.

Core Courses

Course	Credits	Course Title	Completed
BIO 152W	4	Human Anatomy & Physiology I **AND**	
BIO 153W	4	Human Anatomy & Physiology II	
		OR	
BIO 240	(4)	Human Anatomy **AND**	
BIO 241	(4)	Physiology	
BIO 203W	4	General Microbiology	
ENG ---	3	Any Approved College Composition I Course	
ENG ---	3	Any Approved College Composition II Course	
LW 222	3	The Science of Nutrition and Exercise	
MTH 117	0/2	Math for Allied Health or competency test	
PHL 215W	3	Health Care Ethics **OR**	
PHL 230	(2)	Bioethics for Nursing	
PHM 285	3	Pharmacology for Health Care Professionals	
	26/29	**SUBTOTAL**	

General Education Courses

Course	Credits	Course Title	Completed
POL ---	3/4	Any Approved American Government Requirement	
PSY 211W	4	General Psychology	
SOC 211W	3	Principles of Sociology	
	10/11	**SUBTOTAL**	

CLINICAL SEQUENCE (Full-and Part-time Program)

Prior to attempting to register to begin the clinical sequence, you must complete the “Validation Application” and be officially validated. See Validation Procedure in this catalog for the required process.

Basic Program Requirements: Full-time ADN Track: Runs over 4 semesters Fall/Winter

Course	Credits	Course Title	Completed
NUR 101AW	3.5	Nursing Fundamentals **AND**	
NUR 101ALW	1.5	Nursing Fundamentals Lab	
NUR 101BW	2.0	Care of the Aging Adult **AND**	
NUR 101BLW	2.0	Care of the Aging Adult Lab	
NUR 115W	2.0	Maternity Nursing **AND**	
NUR 115LW	1.0	Maternity Nursing Lab	
NUR 116W	2.0	Pediatric Nursing **AND**	
NUR 116LW	1.0	Pediatric Nursing Lab	
NUR 119W	2.0	Mental Health Nursing **AND**	
NUR 119LW	1.0	Mental Health Nursing Lab	
NUR 240W	4.7	Basic Nursing Care of the Adult Client **AND**	
NUR 240LW	4.3	Basic Nursing Care of the Adult Lab	
NUR 250W	4.0	Nursing Care and Management Throughout the Health Continuum **AND**	
NUR 250LW	5.0	Nursing Care and Management Throughout the Health Continuum	
	36	**SUBTOTAL OF FULL-TIME ADN CLINICAL COURSES**	

Basic Program Requirements: Part-time ADN Track: Runs Year Round

Course	Credits	Course Title	Completed
NPT 101AW	3.5	Nursing Fundamentals **AND**	
NPT 101ALW	1.5	Nursing Fundamentals Lab	
NPT 101BW	2.0	Care of the Aging Adult **AND**	
NPT 101BLW	2.0	Care of the Aging Adult Lab	
NPT 115W	2.0	Maternity Nursing **AND**	
NPT 115LW	1.0	Maternity Nursing Lab	
NPT 116W	2.0	Pediatric Nursing **AND**	
NPT 116LW	1.0	Pediatric Nursing Lab	
NPT 119W	2.0	Mental Health Nursing **AND**	
NPT 119LW	1.0	Mental Health Nursing Lab	
NPT 240W	4.7	Basic Nursing Care of the Adult Client **AND**	
NPT 240LW	4.3	Basic Nursing Care of the Adult Client Lab	
NPT 250W	4.0	Nursing Care and Management Throughout the Health Continuum **AND**	
NPT 250LW	5.0	Nursing Care and Management Throughout the Health Continuum Lab	
	36	**SUBTOTAL OF PART-TIME ADN CLINICAL COURSES**	
	72/76	**TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE (FULL- OR PART-TIME)**	

1. A minimum grade of "C" (2.0) or higher is required in all General Education Courses, Core Courses, Clinical Program Courses and Recommended Courses except BIO 152W and BIO 153W, or BIO 240 and BIO 241, ENG 111 and PHM 285 where a "B" (3.0) minimum is required.
2. Students must have completed BIO 152 and BIO 153 or BIO 240 and BIO 241 within the past ten years. If this time period is exceeded, an approved biology course must be taken to refresh this content. Please see the nursing program coordinator to determine which course(s) must be taken. It is recommended that BIO 203 also be current within ten years.
3. It is important that you check a semester ahead of time when you plan on validating for the nursing program to make sure course requirements have not changed. Updated information can be found through the nursing web page: www.delta.edu/nursing, calling the Counseling Office (989-686-9330) or the Nursing Discipline Office (989-686-9500 or 989-686-9274).
4. Prerequisite qualifications for validation are: (a) be admitted to Delta College, (b) provide official transcripts reflecting high school diploma or GED, and all other colleges or training institutions attended; completion of BIO 152, BIO 153, (or BIO 240, BIO 241) ENG 111, and PHM 285 with a minimum grade of "B" (3.0); and completion of the remaining core courses with a "C" (2.0) minimum grade and a GPA in core courses of 2.5 or greater. All General Education courses must be taken prior to graduation from the program. If pursuing a BSN degree, PHL 215 is recommended.
5. Due to limited capacity of clinical facilities and the specific requirements of the accreditation agencies, this Program is considered a "limited enrollment" program. You will be eligible to attempt to register for clinical courses only after successfully completing the prerequisite qualifications and receiving a "Semester and Year of Validation" from the Registrar's Office. You must attempt registration each semester the program is offered following validation until admission into the clinical portion of the program.
6. Prior to entrance into the first clinical course, you must provide documentation of current certification as a Nursing Assistant (CNA) in the State of Michigan. This documentation must be submitted to the Nursing Discipline Office (F-226).
7. The Nursing Student Handbook contains additional information, requirements and specific program policies that you are required to comply with while enrolled in the nursing program. See www.delta.edu/nursing Nursing Student Handbook. You must comply with all Nursing Program Policies.
8. In addition to tuition and textbook costs, you must provide your own uniforms, clinic shoes, name tags and transportation to clinical agency settings, including possible parking charges. See www.delta.edu/nursing for program costs.

9. Full-time ADN track courses start each Fall and each Winter Semester with NUR 101AW. Part-time ADN Track courses start Fall semester only (NPT 101AW) with the program running year round. See web site: www.delta.edu/nursing for more information. A student who designates their ADN track of choice will remain in that track for validation. There will be some flexibility between tracks (Full-time or Part-time) once the student is in the clinical sequence, but the student will need to go through the Nursing Re-Entry Review Board for approval based on the seating availability (see Nursing Student Handbook: www.delta.edu/nursing).
10. Program-Entry Health Requirements: You must submit an up-to-date complete physical examination report to the Nursing Office prior to entrance into the first clinical course. As a clinical student, you are required to have a TB skin test completed annually (A positive TB test will require a recent chest x-ray). The physical examination must confirm that you are free from communicable disease and capable of performing all the duties necessary for the safe care of patients. Proof of Hepatitis B vaccine immunization must be submitted with the physical exam form or you must submit a signed waiver form. For persons born after 1957, documentation of immunization for MMR must be provided. Evidence of current (within ten years) Tetanus immunization status is required. You must submit all up-to-date health requirements to the Nursing Discipline Office prior to entrance into the first clinical course. CPR Training: You must have a CPR card, which must remain current throughout the clinical program. A photocopy of your certificate must be turned in to the Nursing Discipline Office prior to the start of classes. The CPR certification must include one and two person rescuer, child and infant rescuer, airway obstruction relief, and use of AED. Students with expired CPR certification, TB test, and/or physical exam will not be allowed to attend clinical.
11. Any student with a previous or current felony/misdemeanor conviction must inform the Nursing Program Coordinator of said conviction. Students should be aware that a felony/misdemeanor conviction may constitute grounds for ineligibility to sit for the Nursing Licensure examination. Students should be aware that the current licensure application form now requires that a criminal background check requiring fingerprinting be completed. Questions regarding licensure can be found at http://www.michigan.gov/healthlicense or be directed to the Michigan Board of Nursing at 517-335-0918.
12. All entering nursing students must be fingerprinted as part of health care agency requirements and for the Michigan Nursing Scholarship. Students will complete and sign a release form allowing Delta College Public Safety to complete a background check. Information about this process will be provided to the student at orientation. Results of the background check will be secured and kept confidential, but may be shared with clinical agencies when requested or as otherwise required by law. If results indicate a felony/misdemeanor conviction, the Nursing Program Coordinator will discuss the findings and the process with the student. A felony/misdemeanor conviction may delay or end the student's nursing education, delay graduation, or change the curriculum from which the student may graduate.
13. If a student in good standing or granted reentry into the program has a period of inactivity within a program track that exceeds 18 months, the student will need to revalidate for a program track and complete the entire clinical program.
14. A person can achieve PNE program completion if NUR/NPT 101A,NUR/NPT 101AL, NUR/NPT 101B, NUR/NPT 101BL, NUR/NPT 115, NUR/NPT 115L, NUR/NPT 116, NUR/NPT 116L, NUR/NPT 240, and NUR/NPT 240L are successfully completed.
15. Also see "Dual Degrees."
16. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
17. Delta College reserves the right to modify graduation requirements.

Nursing RN Transition Track - Licensed Paramedic To RN - Associate in Applied Science

Program Code: AAS.20569

Delta College offers a special Associate Degree program track for currently Licensed Paramedics with a minimum of 1-year full-time equivalent work experience, within the three years preceding admission to the program.

The ADN program prepares you to function effectively as a member of the health care team. This program requires a strong commitment to critical thinking, team collaboration, leadership, and development of sound clinical knowledge and skills. As a graduate nurse, you will be qualified for employment in structured settings: for example, acute care hospitals, extended care facilities, nursing homes, and clinics. Upon graduating from this Program, you are eligible to take the Registered Nurse licensure exam. This Delta College Program is accredited by the National League for Nursing Accrediting Commission (3343 Peachtree Road NE, Suite 850, Atlanta, GA 30326, ph: 404-975-5000, or go to www.nlnac.org) and approved by the Michigan Board of Nursing.
You must have a GPA of 2.5 or higher in the following core courses in order to qualify for validation.

Core Courses

Course	Credits	Course Title	Completed
BIO 152W	4	Human Anatomy & Physiology I **AND**	
BIO 153W	4	Human Anatomy & Physiology II	
		OR	
BIO 240	(4)	Human Anatomy **AND**	
BIO 241	(4)	Physiology	
BIO 203W	4	General Microbiology	
ENG ---	3	Any Approved College Composition I Course	
ENG ---	3	Any Approved College Composition II Course	
LW 222	3	The Science of Nutrition and Exercise	
MTH 117	2/0	Math for Allied Health or Competency Test	
PHL 215W	3	Health Care Ethics	
		OR	
PHL 230	(2)	Bioethics for Nursing	
PHM 285	3	Pharmacology for Health Care Professionals	
	26/29	**SUBTOTAL**	

General Education Courses

Course	Credits	Course Title	Completed
POL ---	3/4	Any Approved American Government Requirement	
PSY 211W	4	General Psychology	
SOC 211	3	Principles of Sociology	
	10/11	**SUBTOTAL**	

Prior to attempting to register to begin the clinical sequence, you must complete the "Validation Application" and be officially validated. See Validation Procedures in this catalog for the required process.

Clinical Program Requirements

Course	Credits	Course Title	Completed
NT 160W	1	Transitional Skills and Concepts	
NT 160LW	1	Transitional Skills and Concepts Lab	
NT 161W	2	Transition - Basic Principles of Adult Care	
NT 162W	2	Role and Function of the RN	
NT 163W	3	Advanced Principles of Adult Care for the LPN/Licensed Paramedic	
NT 163LW	3	Advanced Principles of Adult Care for the LPN/Licensed Paramedic Lab	
NT 215W	2	Transition-Maternity Nursing	
NT 215LW	1	Transition-Maternity Nursing Lab	
NT 216W	2	Transition-Pediatric Nursing	
NT 216LW	1	Transition-Pediatric Nursing Lab	
NT 219W	2	Transition-Mental Health Nursing	
NT 219LW	1	Transition-Mental Health Nursing Lab	
NUR 250W	4	Nursing Care and Management Throughout the Health Continuum	
NUR 250LW	5	Nursing Care and Management Throughout the Health Continuum	
	30	**SUBTOTAL**	
	66/70	**TOTAL CREDITS**	

1. A minimum grade of "C" (2.0) or higher is required in all General Education Courses, Core Courses, Clinical Program Courses and Recommended Courses except BIO 152W and BIO 153W or BIO 240 and BIO 241, ENG 111 and PHM 285 where a "B" (3.0) minimum is required.
2. A GPA of 2.5 or better is required in all core courses to qualify for validation.
3. A minimum of 6 general education credits are required for validation. All credits must be completed for graduation.
4. Students must have completed BIO 152 and BIO 153 or BIO 240 and BIO 241 within the past ten years. If this time period is exceeded, an approved biology course must be taken to refresh this content. Please see the nursing program coordinator to determine which course(s) must be taken. It is recommended that BIO 203 also be current within ten years.
5. It is important that you check a semester ahead of time when you plan on validating for the nursing program to make sure course requirements have not changed. Updated information can be found through the nursing web page: www.delta.edu/nursing, calling the Counseling Office (989-686-9330) or the Nursing Discipline Office (989-686-9500 or 989-686-9274).
6. Prerequisite qualifications for validation are: (a) be admitted to Delta College, (b) provide official transcripts reflecting high school diploma or GED, and all other colleges or training institutions attended; completion of BIO 152W and BIO 153W or BIO 240 and BIO 241, ENG 111, and PHM 285 with a minimum grade of "B" (3.0); and completion of the remaining core courses with a "C" (2.0) minimum grade and a combined GPA of 2.5 or greater in core courses. All General Education courses must be taken prior to graduation from the program. If pursuing a BSN degree, PHL 215 is recommended.
7. Due to limited capacity of clinical facilities and the specific requirements of the accreditation agencies, this Program is considered a "limited enrollment" program. You will be eligible to attempt to register for clinical courses only after successfully completing the prerequisite qualifications and receiving a "Semester and Year of Validation" from the Registrar's Office. You must attempt registration for clinical entry every winter semester following validation until admission into the clinical portion of the program.
8. The Nursing Student Handbook contains additional information, requirements and specific program policies that you are required to comply with while enrolled in the nursing program. See www.delta.edu/nursing Nursing Student Handbook. You must comply with all Nursing Program Policies.
9. In addition to tuition and textbook costs, you must provide your own uniforms, clinic shoes, name tags and transportation to clinical agency settings, including possible parking charges. See www.delta.edu/nursing for program costs.
10. Admission to the NT track is yearly winter semester. Only current licensed Paramedics have the option to take the Transition Track leading to RN licensure. Proof of current licensure as a Paramedic must be provided to the Registrar's office at the time of validation. A minimum of one-year full-time equivalent work experience within the three years preceding admission to the program, verified by the program coordinator, is required before entering into clinicals.
11. Program-Entry Health Requirements: You must submit an up-to-date complete physical examination report to the Nursing Office prior to entrance into the first clinical course. As a clinical student, you are required to have a TB skin test completed annually. The physical examination must confirm that you are free from communicable disease and capable of performing all the duties necessary for the safe care of patients. A positive TB test will require a recent chest x-ray. Proof of Hepatitis B vaccine immunization must be submitted with the physical exam form or you must submit a signed waiver form. For persons born after 1957, documentation of immunization for MMR must be provided. Evidence of current (within ten years) Tetanus immunization status is required. You must submit all up-to-date health requirements to the Nursing Discipline Office prior to entrance into the first clinical course. CPR Training: You must have a CPR card, which must remain current throughout the clinical program. A photocopy of your certificate must be turned in to the Nursing Discipline Office prior to the start of classes. The CPR certification must include one and two person rescuer, child and infant rescuer, airway obstruction relief, and use of AED. Students with expired CPR certification, TB test, and/or physical exam will not be allowed to attend clinical.
12. Any student with a previous or current felony/misdemeanor conviction must inform the Nursing Program Coordinator of said conviction. Students should be aware that a felony/misdemeanor conviction may constitute grounds for ineligibility to sit for the Nursing Licensure examination. Students should be aware that the current licensure application form now requires that a criminal background check requiring fingerprinting be completed. Questions regarding licensure can be found at http://www.michigan.gov/healthlicense or be directed to the Michigan Board of Nursing at 517-335-0918.
13. All entering nursing students must be fingerprinted as part of health care agency requirements and for the Michigan Nursing Scholarship. Students will complete and sign a release form allowing Delta College Public Safety to complete a background check. Information about this process will be provided to the student at orientation. Results of the background check will be secured and kept confidential, but may be shared with clinical agencies when requested or as otherwise required by law. If results indicate a felony/misdemeanor conviction, the Nursing Program Coordinator will discuss

the findings and the process with the student. A felony/misdemeanor conviction may delay or end the student's nursing education, delay graduation, or change the curriculum from which the student may graduate.

14. If a student in good standing or granted reentry into the program has a period of inactivity within a program track that exceeds 18 months, the student will need to revalidate for a program track and complete the entire program.
15. Also see "Dual Degrees."
16. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
17. Delta College reserves the right to modify graduation requirements.

Nursing RN Transition Track - Licensed Practical Nurse To RN - Associate in Applied Science

Program Code: AAS.20568

Delta College offers a special Associate Degree program track for currently Licensed Practical Nurses (LPN) with a minimum of 1-year full-time equivalent work experience, within the three years preceding admission to the program.

The ADN program prepares you to function effectively as a member of the health care team. This program requires a strong commitment to critical thinking, team collaboration, leadership, and development of sound clinical knowledge and skills. As a graduate nurse, you will be qualified for employment in structured settings: for example, acute care hospitals, extended care facilities, nursing homes, and clinics. Upon graduating from this Program, you are eligible to take the Registered Nurse licensure exam. This Delta College Program is accredited by the National League for Nursing Accrediting Commission (3343 Peachtree Road NE, Suite 850, Atlanta, GA 30326, ph: 404-975-5000 or go to www.nlnac.org) and approved by the Michigan Board of Nursing.
You must have a GPA of 2.5 or higher in the following core courses in order to qualify for validation.

Core Courses

Course	Credits	Course Title	Completed
BIO 152W	4	Human Anatomy & Physiology I **AND**	
BIO 153W	4	Human Anatomy & Physiology II	
		OR	
BIO 240	(4)	Human Anatomy **AND**	
BIO 241	(4)	Physiology	
BIO 203W	4	General Microbiology	
ENG ---	3	Any Approved College Composition I Course	
ENG ---	3	Any Approved College Composition II Course	
LW 222	3	The Science of Nutrition and Exercise	
MTH 117	2/0	Math for Allied Health or Competency Test	
PHL 215W	3	Health Care Ethics	
		OR	
PHL 230	(2)	Bioethics for Nursing	
PHM 285	3	Pharmacology for Health Care Professionals	
	26/29	**SUBTOTAL**	

General Education Courses

Course	Credits	Course Title	Completed
POL ---	3/4	Any Approved American Government Requirement	
PSY 211W	4	General Psychology	
SOC 211	3	Principles of Sociology	
	10/11	**SUBTOTAL**	

Prior to attempting to register to begin the clinical sequence, you must complete the “Validation Application” and be officially validated. See Validation Procedures in this catalog for the required process.

Clinical Program Requirements

Course	Credits	Course Title	Completed
NT 161W	2	Transition - Basic Principles of Adult Care	
NT 162W	2	Role and Function of the RN	
NT 163W	3	Advanced Principles of Adult Care for the LPN/Licensed Paramedic	
NT 163LW	3	Advanced principles of Adult Care for the LPN/Licensed Paramedic Lab	
NT 215W	2	Transition-Maternity Nursing	
NT 215LW	1	Transition-Maternity Nursing Lab	
NT 216W	2	Transition-Pediatric Nursing	
NT 216LW	1	Transition-Pediatric Nursing Lab	
NT 219W	2	Transition-Mental Health Nursing	
NT 219LW	1	Transition-Mental Health Nursing Lab	
NUR 250W	4	Nursing Care and Management Throughout the Health Continuum	
NUR 250LW	5	Nursing Care and Management Throughout the Health Continuum	
	28	**SUBTOTAL**	

Recommended Courses

Course	Credits	Course Title	Completed
NT 160W	1	Transitional Skills and Concepts	
NT 160LW	1	Transitional Skills and Concepts Lab	
	0/2	**SUBTOTAL**	
	64/70	**TOTAL CREDITS**	

1. A minimum grade of "C" (2.0) or higher is required in all General Education Courses, Core Courses, Clinical Program Courses and Recommended Courses except BIO 152W and BIO 153W or BIO 240 and BIO 241, ENG 111 and PHM 285 where a "B" (3.0) minimum is required.
2. A GPA of 2.5 or better is required in all Core Courses to qualify for validation.
3. A minimum of 6 general education credits are required for validation. All credits must be completed for graduation.
4. Students must have completed BIO 152 and BIO 153 or BIO 240 and BIO 241 within the past ten years. If this time period is exceeded, an approved biology course must be taken to refresh this content. Please see the nursing program coordinator to determine which course(s) must be taken. It is recommended that BIO 203 also be current within ten years.
5. It is important that you check a semester ahead of time when you plan on validating for the nursing program to make sure course requirements have not changed. Updated information can be found through the nursing web page: www.delta.edu/nursing, calling the Counseling Office (989-686-9330) or the Nursing Discipline Office (989-686-9500 or 989-686-9274).
6. Prerequisite qualifications for validation are: (a) be admitted to Delta College, (b) provide official transcripts reflecting high school diploma or GED, and all other colleges or training institutions attended; completion of BIO 152W and BIO 153W or BIO 240 and BIO 241, ENG 111, and PHM 285 with a minimum grade of "B" (3.0); and completion of the remaining core courses with a "C" (2.0) minimum grade and a GPA of 2.5 or greater in core courses. All General Education courses must be taken prior to graduation from the program. If pursuing a BSN degree, PHL 215 is recommended.
7. Due to limited capacity of clinical facilities and the specific requirements of the accreditation agencies, this Program is considered a "limited enrollment" program. You will be eligible to attempt to register for clinical courses only after successfully completing the prerequisite qualifications and receiving a "Semester and Year of Validation" from the Registrar's Office. You must attempt registration each winter semester following validation until admission into the clinical portion of the program.
8. The Nursing Student Handbook contains additional information, requirements and specific program policies that you are required to comply with while enrolled in the nursing program. See www.delta.edu/nursing Nursing Student Handbook. You must comply with all Nursing Program Policies.
9. In addition to tuition and textbook costs, you must provide your own uniforms, clinic shoes, name tags and transportation to clinical agency settings, including possible parking charges. See www.delta.edu/nursing for program costs.
10. Admission to the NT track is yearly winter semester. NT 160 and NT 160L are strongly recommended for LPNs not in the acute care practice setting. Only current licensed LPNs have the option to take the Transition Track leading to RN licensure. Proof of current licensure must be provided to the Registrar's office at the time of validation. A minimum of one-year full-time equivalent work experience within the three years preceding admission to the program, verified by the program coordinator, is required before entering into clinicals. The PN graduate from the Delta College Practical Nursing program who wishes to bypass the minimum of one-year full-time equivalent work experience before entering into clinicals, may do so after meeting the following requirements:
    a. Successfully graduate from the Delta College PN program
    b. Completes all required pre-requisite courses for the AND program validation
    c. Maintains a GPA of 3.0 or higher throughout AND pre-requisite courses and PN clinical courses
    d. Successfully pass the NCLEX-PN
    e. Apply for LPN to AND validation after graduation from PN program
    f. Register for LPN to AND clinical entry
11. Program-Entry Health Requirements: You must submit an up-to-date complete physical examination report to the Nursing Office prior to entrance into the first clinical course. As a clinical student, you are required to have a TB skin test completed annually. The physical examination must confirm that you are free from communicable disease and capable of performing all the duties necessary for the safe care of patients. A positive TB test will require a recent chest x-ray. Proof of Hepatitis B vaccine immunization must be submitted with the physical exam form or you must submit a signed waiver form. For persons born after 1957, documentation of immunization for MMR must be provided. Evidence of current (within ten years) Tetanus immunization status is required. You must submit all up-to-date health requirements to the Nursing Discipline Office prior to entrance into the first clinical course. CPR Training: You must have a CPR card, which must remain current throughout the clinical program. A photocopy of your

certificate must be turned in to the Nursing Discipline Office prior to the start of classes. The CPR certification must include one and two person rescuer, child and infant rescuer, airway obstruction relief, and use of AED. Students with expired CPR certification, TB test, and/or physical exam will not be allowed to attend clinical.

12. Any student with a previous or current felony/misdemeanor conviction must inform the Nursing Program Coordinator of said conviction. Students should be aware that a felony/misdemeanor conviction may constitute grounds for ineligibility to sit for the Nursing Licensure examination. Students should be aware that the current licensure application form now requires that a criminal background check requiring fingerprinting be completed. Questions regarding licensure can be found at http://www.michigan.gov/healthlicense or be directed to the Michigan Board of Nursing at 517-335-0918.
13. All entering nursing students must be fingerprinted as part of health care agency requirements and for the Michigan Nursing Scholarship. Students will complete and sign a release form allowing Delta College Public Safety to complete a background check. Information about this process will be provided to the student at orientation. Results of the background check will be secured and kept confidential, but may be shared with clinical agencies when requested or as otherwise required by law. If results indicate a felony/misdemeanor conviction, the Nursing Program Coordinator will discuss the findings and the process with the student. A felony/misdemeanor conviction may delay or end the student's nursing education, delay graduation, or change the curriculum from which the student may graduate.
14. If a student in good standing or granted reentry into the program has a period of inactivity within a program track that exceeds 18 months, the student will need to revalidate for a program track and complete the entire program.
15. Also see "Dual Degrees."
16. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
17. Delta College reserves the right to modify graduation requirements.

Office Professions - Office Skills Core - Certificate of Achievement

Program Code: CBZ.35293

Office professions continue to evolve along with new office automation and organizational restructuring. In many cases, office professionals have assumed new responsibilities and learned to operate a variety of office equipment. Most organizations employ office professionals to perform and coordinate office activities and to ensure that information is disseminated to staff and clients. Managers, professionals, and other support staff rely on them to keep administrative operations under control. Office professionals are responsible for a variety of clerical and administrative duties that are necessary to run and maintain organizations efficiently. They use personal computers to communicate electronically and to run spreadsheet, word processing, database management, desktop publishing, and graphics programs.

Core Courses

Course	Credits	Course Title	Completed
CST 106	1	Internet Foundations	_____
OAT 105W	1	Time Management	_____
OAT 151	3	Business Communication I	_____
OAT 157	2	File Management	_____
OAT 171	3	Document Processing: Beginning	_____
OAT 175	2	Electronic Calculation	_____

THIS CERTIFICATE IS PART OF A LADDERED PROGRAM. CREDITS EARNED MAY BE APPLIED TOWARDS COMPLETING THE OFFICE PROFESSIONS - OFFICE ASSISTANT - ADVANCED CERTIFICATE.

12 TOTAL CREDITS

1. A Grade of "C" (2.0) or higher is required in OAT 151 and OAT 171.
2. CST 106 and OAT 171 are key courses and must be completed within 5 years of completing the certificate. Failure to complete within the stated time frame will require you to repeat this course. See section 4 of the College Catalog "Academic Policies/Graduation Requirements."
3. Credit by examination is available for OAT 151, OAT 171, and OAT 175.
4. Keyboarded assignments are required for OAT 151.
5. OAT 175 requires MATH LEVEL 2.
6. Students may earn credit hours with evidence of Certified Administrative Professional (CAP) certification. Consult Counseling & Advising Services for more information.
7. OAT 171 Document Processing: Beginning requires OAT 170 Keyboarding with a "B" grade or better. A keyboarding waiver test is available of OAT 170. Contact the BIT Division office, 989.686.9127, to arrange for a waiver test.
8. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
9. Delta College reserves the right to modify graduation requirements.

Office Professions - Office Assistant - Advanced Certificate

Program Code: CBA.35291

Office professions continue to evolve along with new office automation and organizational restructuring. In many cases, office professionals have assumed new responsibilities and learned to operate a variety of office equipment. Most organizations employ office professionals to perform and coordinate office activities and to ensure that information is disseminated to staff and clients. Managers, professionals, and other support staff rely on them to keep administrative operations under control. Office professionals are responsible for a variety of clerical and administrative duties that are necessary to run and maintain organizations efficiently. They use personal computers to communicate electronically and to run spreadsheet, word processing, database management, desktop publishing, and graphics programs.

Core Courses

Course	Credits	Course Title	Completed
CST 105	1	Outlook	
CST 106	1	Internet Foundations	
CST 147	2	Presentation Graphics Using PowerPoint	
CST 151	2	Spreadsheet Fundamentals **OR**	
CST 155	(3)	Microsoft EXCEL	
OAT 105W	1	Time Management	
OAT 151	3	Business Communication I **AND**	
OAT 152	3	Business Communication II	
		OR	
OAT 151	(3)	Business Communication I **AND**	
ENG 111	(3)	College Composition I **AND**	
ENG 112	(3)	College Composition II	
		OR	
OAT 151	(3)	Business Communication I **AND**	
ENG 111	(3)	College Composition I **AND**	
ENG 113	(3)	Technical Communication	
OAT 157	2	File Management	
OAT 171	3	Document Processing: Beginning	
OAT 172	3	Document Processing: Intermediate	
OAT 175	2	Electronic Calculation	
PHL 203W	3	Business Ethics	
		OR	
PHL 210W	(2)	Information Technology Ethics & Law	

THIS CERTIFICATE IS PART OF A LADDERED PROGRAM. CREDITS EARNED MAY BE APPLIED TOWARDS COMPLETION OF AN OFFICE PROFESSIONS - OFFICE SPECIALIST - ADVANCED CERTIFICATE.

25/30 TOTAL CREDITS

1. A Grade of "C" (2.0) or higher is required in CST 151, CST 155, OAT 171, OAT 172, OAT 151 and OAT 152 or ENG 111 and ENG 112 or ENG 111 and ENG 113.
2. CST 105, CST 106, CST 147, CST 151, CST 155, OAT 171 and OAT 172 are key courses and must be completed within 5 years of completing the certificate. Failure to complete within the stated time frame will require you to repeat this course. See section 4 of the College Catalog "Academic Policies/Graduation Requirements."
3. Credit by examination is available for CST 105, CST 151, OAT 151, OAT 171, OAT 172 and OAT 175.
4. Keyboarded assignments are required for OAT 151 and OAT 152.
5. OAT 175 requires MATH LEVEL 2.
6. Students may earn credit hours with evidence of Certified Administrative Professional (CAP) certification. Consult Counseling & Advising Services for more information.
7. OAT 171 Document Processing: Beginning requires OAT 170 Keyboarding with a "B" grade or better. A keyboarding waiver test is available for OAT 170. Contact the BIT Division office, 989.686.9127, to arrange for a waiver test.
8. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
9. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Ofc Prof Ofc Asst Adv Cert**

Ofc Prof Ofc Asst Adv Cert

Total Program Cost (In District):	$3,768.80
On-Time Completion Rate:	93.30%
Program Job Placement Rate:	100.00%
Median Loan Dept:	$0.00

Office Professions - Office Specialist - Advanced Certificate

Program Code: CBA.35292

Office professions continue to evolve along with new office automation and organizational restructuring. In many cases, office professionals have assumed new responsibilities and learned to operate a variety of office equipment. Most organizations employ office professionals to perform and coordinate office activities and to ensure that information is disseminated to staff and clients. Managers, professionals, and other support staff rely on them to keep administrative operations under control. Office professionals are responsible for a variety of clerical and administrative duties that are necessary to run and maintain organizations efficiently. They use personal computers to communicate electronically and to run spreadsheet, word processing, database management, desktop publishing, and graphics programs.

Required Courses

Course	Credits	Course Title	Completed
CST 103	1	Windows Foundations	
CST 105	1	Outlook	
CST 106	1	Internet Foundations	
CST 107	1	Microsoft Publisher	
CST 110	1	Web Page Development Using HTML	
CST 147	2	Presentation Graphics Using PowerPoint	
CST 151	2	Spreadsheet Fundamentals **OR**	
CST 155	(3)	Microsoft EXCEL	
CST 257	3	Database MS Access	
OAT 105W	1	Time Management	
OAT 151	3	Business Communication I **AND**	
OAT 152	3	Business Communication II	
		OR	
OAT 151	(3)	Business Communication I **AND**	
ENG 111	(3)	College Composition I **AND**	
ENG 112	(3)	College Composition II	
		OR	
OAT 151	(3)	Business Communication I **AND**	
ENG 111	(3)	College Composition I **AND**	
ENG 113	(3)	Technical Communication	
OAT 155W	2	Editing	
OAT 157	2	File Management	
OAT 166W	3	Office Internship **OR**	
ACE ---	(3)	Any ACE Year I Experience	
OAT 171	3	Document Processing: Beginning	
OAT 172	3	Document Processing: Intermediate	
OAT 175	2	Electronic Calculation	
OAT 285W	3	Office Technology	
PHL 203W	3	Business Ethics	
		OR	
PHL 210W	(2)	Information Technology Ethics & Law	

THIS CERTIFICATE IS PART OF A LADDERED PROGRAM. CREDITS EARNED MAY BE APPLIED TOWARDS COMPLETIONN OF A OFFICE PROFESSIONS - ADMINISTRATIVE ASSISTANT - ASSOCIATE IN APPLIED ARTS DEGREE.

39/44 TOTAL CREDITS

1. A Grade of "C" (2.0) or higher is required in CST 107, CST 151, CST 155, CST 257, OAT 171, OAT 172, OAT 151 and OAT 152 or ENG 111 and ENG 112 or ENG 111 and ENG 113.

2. CST 103, CST 105, CST 106, CST 107, CST 110, CST 147, CST 151, CST 257, OAT 166, OAT 171, OAT 172 and OAT 285 are key courses and must be completed within 5 years of completing the certificate. Failure to complete within the stated time frame will require you to repeat this course. See section 4 of the College Catalog "Academic Policies/Graduation Requirements."
3. Credit by examination is available for CST 103, CST 105, CST 151, OAT 151, OAT 171, OAT 172 and OAT 175.
4. Students must apply for placement in OAT 166 in semester previous to anticipated placement.
5. Keyboarded assignments are required for OAT 151 and OAT 152.
6. On-site visitations required in OAT 285.
7. OAT 175 requires MATH LEVEL 2.
8. OAT 285 is a fall-only class.
9. Students may earn credit hours with evidence of Certified Administrative Professional (CAP) certification. Consult Counseling & Advising Services for more information.
10. OAT 171 Document Processing: Beginning requires OAT 170 Keyboarding with a "B" grade or better. A keyboarding waiver test is available for OAT 170. Contact the BIT Division office, 989.686.9127, to arrange for a waiver test.
11. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
12. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Ofc Prof Ofc Spec Adv Cert**

Ofc Prof Ofc Spec Adv Cert

Total Program Cost (In District):	$6,213.40
On-Time Completion Rate:	NA
Program Job Placement Rate:	NA
Median Loan Dept:	NA

Office Professions - Administrative Assistant - Associate in Business Studies

Program Code: ABS.10296

Office professions continue to evolve along with new office automation and organizational restructuring. In many cases, office professionals have assumed new responsibilities and learned to operate a variety of office equipment. Most organizations employ office professionals to perform and coordinate office activities and to ensure that information is disseminated to staff and clients. Managers, professionals, and other support staff rely on them to keep administrative operations under control.

Office professionals are responsible for a variety of clerical and administrative duties that are necessary to run and maintain organizations efficiently. They use personal computers to communicate electronically and to run spreadsheet, word processing, database management, desktop publishing, and graphics programs.

Administrative assistants perform fewer clerical tasks than lower-level office professionals. In addition to receiving visitors, arranging conference calls, and answering letters, they may handle more complex responsibilities such as conducting research, preparing statistical reports, and supervising other clerical staff.

General Education Courses

Course	Credits	Course Title	Completed
COM 202W	3	Oral Communication for Managers	
LWA ---	1	Any 1 Credit LWA Course	
LW 220W	1	Lifelong Wellness **AND**	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
OAT 151	3	Business Communication I **AND**	
OAT 152	3	Business Communication II	
		OR	
OAT 151	(3)	Business Communication I **AND**	
ENG 111	(3)	College Composition I **AND**	
ENG 112	(3)	College Composition II	
		OR	
OAT 151	(3)	Business Communication I **AND**	
ENG 111	(3)	College Composition I **AND**	
ENG 113	(3)	Technical Communication	
POL ---	3/4	Any Approved American Government Requirement	
PHL 203W	3	Business Ethics	
		OR	
PHL 210W	(2)	Information Technology Ethics & Law	
	16/21	**SUBTOTAL**	

Core Courses

Course	Credits	Course Title	Completed
ACC 121	4	Accounting for Managers **OR**	
ACC 211	(4)	Principles of Accounting I	
CST 103	1	Windows Foundations	
CST 105	1	Outlook	
CST 106	1	Internet Foundations	
CST 107	1	Microsoft Publisher	
CST 110	1	Web Page Development Using HTML	
CST 147	2	Presentation Graphics Using PowerPoint	

CST 151	2	Spreadsheet Fundamentals **OR**	_____
CST 155	(3)	Microsoft EXCEL	_____
CST 257	3	Database MS Access	_____
MGT 153W	3	Introduction to Business	_____
OAT 105W	1	Time Management	_____
OAT 155W	2	Editing	_____
OAT 157	2	File Management	_____
OAT 166W	3	Office Internship **OR**	_____
ACE 105W	(3)	Year I Experience I - Business & Human Services	_____
OAT 171	3	Document Processing: Beginning	_____
OAT 172	3	Document Processing: Intermediate	_____
OAT 175	2	Electronic Calculation	_____
OAT 268	3	Administrative Office Practices	_____
OAT 273	3	Document Processing: Advanced	_____
OAT 285W	3	Office Technology	_____
	1	Elective Credit	_____
	45/46	**SUBTOTAL**	
	62/67	**TOTAL CREDITS**	

1. A Grade of "C" (2.0) or higher is required in CST 107, CST 151, CST 155, CST 257, OAT 171, OAT 172, OAT 268, OAT 273, OAT 151 and OAT 152 or ENG 111 and ENG 112 or ENG 111 and ENG 113
2. CST 103, CST 105, CST 106, CST 107, CST 110, CST 147, CST 151, CST 155, CST 257, OAT 166, OAT 171, OAT 172, OAT 268, OAT 273 and OAT 285 are Key courses and must be completed within 5 years of completing the certificate. Failure to complete within the stated time frame will require you to repeat this course. See section 4 of the College Catalog "Academic Policies/Graduation Requirements."
3. If you are planning to transfer, you should take ACC 211.
4. Credit by examination is available for CST 103, CST 105, CST 151, OAT 151, OAT 171, OAT 172, OAT 175 and MGT 153.
5. Students must apply for placement in OAT 166 in semester previous to anticipated placement.
6. Keyboarded assignments are required for OAT 151 and OAT 152.
7. On-site visitations required in OAT 285.
8. OAT 175 requires MATH LEVEL 2.
9. OAT 285 is a fall-only class.
10. OAT 268 is a winter-only class. OAT 151, OAT 172, CST 147, CST 151, CST 257 with a C (2.0) grade minimum are the prerequisites for OAT 268.
11. Students may earn credit hours with evidence of Certified Administrative Professional (CAP) certification. Consult Counseling & Advising Services for more information.
12. OAT 171 Document Processing: Beginning requires OAT 170 Keyboarding with a "B" grade or better. A keyboarding waiver test is available for OAT 170. Contact the BIT Division office, 989.686.9127, to arrange for a waiver test.
13. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
14. Delta College reserves the right to modify graduation requirements.

Personal Trainer - Advanced Certificate

Program Code: CSA.35742

Upon completion of the Personal Trainer Certificate Program, you will have the knowledge and skills necessary to effectively assist apparently healthy individuals and those with controlled diseases in exercising safely and achieving higher levels of fitness or athletic performance. This program will provide the knowledge and practical experience in all of the following areas: client consultation and assessment, fitness program development, exercise techniques, safety procedures, and legal issues. Upon completion of this program, you will be eligible to sit for the American Council on Exercise (ACE) certification exam or the National Strength and Conditioning Association (NSCA) Certified Personal Trainer exam.

Basic Program Requirements

Course	Credits	Course Title	Completed
BIO 101W	4	Introduction to Anatomy And Physiology	
		OR	
BIO 152W	(4)	Human Anatomy & Physiology I	
		OR	
BIO 140W	(5)	Essentials Of Human Anatomy & Physiology	
COM 202W	3	Oral Communication for Managers	
LW 220W	1	Lifelong Wellness	
		OR	
LW 221W	(2)	Fitness and Wellness	
HSC 140	2	Basic Medical Emergencies	
		OR	
LWT 165	(1)	Community First Aid **AND**	
LWT 170	(1)	BLS for the Health Care Provider	
LWT 210	3	Nutrition: The Science of Optimal Living	
		OR	
LW 222	(3)	The Science of Nutrition and Exercise	
LWT 230	3	Theory of Strength and Conditioning	
LWT 240	4	Health Fitness Instructor/Personal Trainer	
LWT 251	4	Exercise Physiology	
LWT 255	3	Health Fitness Management and Promotion	
LWA ---	1	Lifelong Wellness Elective from Category A	
LWA ---	1	Lifelong Wellness Elective from Category B	
	29/31.5	**SUBTOTAL**	

LWA Electives - Category A (Choose from list below for Basic Program Requirements)

Course	Credits	Course Title	Completed
LWA 101	1	Fitness for Life	
LWA 106	1	Athletic Conditioning	
LWA 108	1	Weight Training	
LWA 111	1	Circuit Training	
		SUBTOTAL	

LWA Electives - Category B (Choose from list below for Basic Program Requirements)

Course	Credits	Course Title	Completed
LWA 151	1	Kick Boxing	
LWA 152	1.5	Astanga Yoga	
LWA 154W	1	BOSU Ball Training	
LWA 156W	1	Stability Ball Training	
LWA 158	1	Pilates	
		SUBTOTAL	
	29/31.5	**TOTAL CREDITS REQUIRED FOR CERTIFICATE**	

1. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
2. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Personal Trainer Adv Cert**

Personal Trainer Adv Cert

Total Program Cost (In District):	$4,056.40
On-Time Completion Rate:	NA
Program Job Placement Rate:	NA
Median Loan Dept:	NA

Physical Therapist Assistant - Associate in Applied Science

Program Code: AAS.20573

Delta's program is for the training of Physical Therapist Assistants only. If you are planning to become a Physical Therapist, you should follow the Pre-Physical Therapy program guide and meet with a counselor.

As a Physical Therapist Assistant, you will work under the direction and supervision of Physical Therapists. Such settings include: acute care hospitals, rehabilitation centers, school systems, nursing homes, home care, out-patient facilities, private clinics, and specialty clinics. As a graduate of this program, you will be able to carry out patient treatment programs designed by the Physical Therapist that utilize heat, cold, light, sound, massage, therapeutic exercise, aquatics, manual therapy, and rehabilitation procedures. This program is accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE).
Option A - Regular Track (Students can take and complete these validation courses at their own pace.)

General Education Courses

Course	Credits	Course Title	Completed
BIO 140W	5	Essentials of Human Anatomy & Physiology	
		OR	
BIO 152W	(4)	Human Anatomy & Physiology I **AND**	
BIO 153W	(4)	Human Anatomy & Physiology II	
		OR	
BIO 240	(4)	Human Anatomy **AND**	
BIO 241	(4)	Physiology	
COM 114W	3	Interpersonal Communication	
ENG 111	3	College Composition I	
HSC 105	2	Medical Terminology	
POL ---	3/4	Any Approved American Government Requirement	
PSY 101W	3	Applied Psychology	
	19/23	**SUBTOTAL**	

Option B - Accelerated Track (Students must take these validation courses in one semester.)

General Education Courses

Course	Credits	Course Title	Completed
BIO 140W	5	Essentials Of Human Anatomy & Physiology	
COM 114W	3	Interpersonal Communication	
ENG 111	3	College Composition I	
HSC 105	2	Medical Terminology	
POL ---	3/4	Any Approved American Government Requirement	
PSY 101W	3	Applied Psychology	
	19/20	**SUBTOTAL**	

Prior to attempting to register to begin the clinical sequence, you must complete the Validation Application. See Validation Procedures in this catalog for the required process.
Clinical Program Course Sequence

Semester 1 (Fall)

Course	Credits	Course Title	Completed
ENG 113	3	Technical Communication	
LW 206A	1	Occupational Wellness 1	
PTA 101	2	Applied Clinical Anatomy I	
PTA 101LW	1	Applied Clinical Anatomy I Lab	
PTA 105	2	Physical Agents	
PTA 105LW	2	Physical Agents Lab	
PTA 110	2	Fundamentals of Patient Mobility	
PTA 110L	1	Fundamentals of Patient Mobility Lab	
	14	**SUBTOTAL**	

Semester 2 (Winter)

Course	Credits	Course Title	Completed
LWA 206B	0.5	Occupational Wellness 2	
PTA 102	2	Clinical Neuroanatomy	
PTA 120	2	Orthopedic Rehabilitation	
PTA 120L	1	Orthopedic Rehabilitation Lab	
PTA 121	1	Human Development I - Topics in Pediatrics	
PTA 123W	2.5	Clinical Medicine	
PTA 123LW	0.5	Clinical Medicine Lab	
PTA 124	2	PTA Clinic I	
PTA 125	1	Applied Clinical Anatomy II	
PTA 125LW	1	Applied Clinical Anatomy II Lab	
PTA 222	2	Human Development II - Topics in Geriatric Rehabilitation	
	15.5	**SUBTOTAL**	

Semester 3 (Spring/Summer) Optional

Course	Credits	Course Title	Completed
PTA 121	(1)	Human Development I - Topics in Pediatrics	
PTA 209	(0.5)	Fundamentals of Pediatric Rehabilitation	
PTA 209L	(0.5)	Fundamentals of Pediatric Rehabilitation Lab	
PTA 222	(2)	Human Development II - Topics in Geriatric Rehabilitation	
	(4)	**SUBTOTAL**	

Semester 4 (Fall)

Course	Credits	Course Title	Completed
LWA 206C	0.5	Occupational Wellness 3	
PTA 205	0.5	Physical Agents II	
PTA 205L	0.5	Physical Agents II Lab	
PTA 209	0.5	Fundamentals of Pediatric Rehabilitation	
PTA 209L	0.5	Fundamentals of Pediatric Rehabilitation Lab	
PTA 210	2	Neuro-Rehabilitation Techniques	
PTA 210LW	1	Neuro-Rehabilitation Techniques Lab	
PTA 213	0.5	Orthotics and Prosthetics	
PTA 213L	0.5	Orthotics and Prosthetics Lab	
PTA 214W	3	PTA Clinic 2	
PTA 216W	1	Introduction to Evidence Based Practice	
	10.5	**SUBTOTAL**	

Semester 5 (Winter)

Course	Credits	Course Title	Completed
PTA 221	2	Clinical Seminar	
PTA 224	9	PTA Clinic 3	
	11	**SUBTOTAL**	
	70/74	**Total Credits Required for Associates Degree (OPTION A)**	
	70/71	**TOTAL CREDITS REQUIRED FOR ASSOCIATES DEGREE (OPTION B)**	

1. Prerequisite qualifications for validation are: high school graduate or GED equivalent; provide transcripts from high school and all other colleges attended; be admitted to Delta College; completion with a B (3.0) minimum grade in: BIO 140 or BIO 152 and BIO 153 or BIO 240 and BIO 241; and completion with a “C” (2.0) minimum grade in ENG 111, HSC 105, PSY 101, POL --- and COM 114, and complete 40 hours of observation time to apply for validation.
2. Math skills of LEVEL 3 are recommended.
3. An observation series is required prior to validation. Students must observe, at a minimum, two different PT’s or PTA’s performing their skills in two different clinical practice sites for a minimum of 40 hours. These observations must be documented on the Observation Form which is available on line under the PTA site or can be picked up in the Counseling Office. These forms must be stamped at the Registrar’s office at the time the validation application is turned in. Once the form has been stamped it must be turned in to the PTA Program Coordinator.
4. Students may complete the program in five (5) semesters by taking all General Education courses in Option B during one semester.

5. You will be eligible to attempt to register for clinical courses only after successfully completing the prerequisite qualifications and receiving a "Semester and Year of Validation".
6. Registration and acceptance into the PTA program occurs each Fall. Anticipated enrollment capacities can be found on the validation chart. The procedures for application into the PTA Program are in the guidelines for validation. See Validation Procedures in this catalog for required process.
7. Upon admission to the program, you must have a complete physical examination including a negative TB test or a physician's release form annually.
8. Current CPR for The Professional Rescuer certification is required upon successful enrollment in the PTA program. Current CPR certification must be maintained throughout the program.
9. Proof of Hepatitis B vaccination or signed waiver is required for admission to clinical sequence.
10. Criminal background checks are required to participate in clinical experiences. There is a fee for the criminal background check.
11. Physical Therapist Assistant courses are offered day and evening hours and must be taken in the sequence shown. There may be occasional weekend courses, as well, that are mandatory.
12. In addition to tuition, fees, and textbook costs, you must purchase appropriate lab attire, name tags, provide your transportation to clinical settings, possible hospital parking charges, and field trips.
13. You need to be aware that clinical hospital assignments may be outside the local area. Students must be prepared to commute up to two hours for at least one rotation.
14. You must achieve a minimum C (2.0) grade in each Physical Therapist Assistant course to be eligible to continue in the program.
15. ENG 113 Technical Communication must be taken while in the PTA program. If ENG 113 is taken prior to entering the PTA program the student will need to repeat the course. ENG 113 taken within the program will focus on writing skill/requirements within the PTA discipline.
16. Student Reentry Procedures are printed in the handbook given to all clinical students.
17. Also see "Dual Degrees."
18. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
19. Delta College reserves the right to modify graduation requirements.

Practical Nurse - Advanced Certificate

Program Code: CHA.35563

The PN program of study prepares you to function effectively as a member of the health care team under the direction of the RN and/or the physician. Upon successful completion of the program, you will receive an Advanced Certificate and are eligible to take the Practical Nursing licensure exam. The PN clinical coursework is an intense full-time three semesters (Fall, Winter, Spring/Summer) that requires college-level reading, writing, and applied math skills. This program is approved by the Michigan Board of Nursing.
You must have a GPA of 2.5 or higher in the following core courses in order to qualify for validation.

Core Courses

Course	Credits	Course Title	Completed
BIO 152W	4	Human Anatomy & Physiology I **AND**	
BIO 153W	4	Human Anatomy & Physiology II	
		OR	
BIO 240	(4)	Human Anatomy **AND**	
BIO 241	(4)	Physiology	
ENG ---	3	Any Approved College Composition I Course	
MTH 117	0/2	Math for Allied Health or Math Competency Test	
HSC 105	2	Medical Terminology	
PHM 285	3	Pharmacology for Health Care Professionals	
	16/18	**SUBTOTAL**	

Prior to attempting to register to begin the clinical sequence, you must complete the "Validation Application" and be officially validated. See validation procedures in this catalog for the required process.

Clinical Program Requirements

Course	Credits	Course Title	Completed
PNE 121W	6	Fundamentals of Practical Nursing **AND**	
PNE 121LW	3	Fundamentals of Practical Nursing Lab	
PNE 122W	6	Care of the Adult I **AND**	
PNE 122LW	3	Care of Adult I Lab	
PNE 123W	2	Care of the Adult II **AND**	
PNE 123LW	2	Care of Adult II Lab	
PNE 125W	3	Basic Maternal Child **AND**	
PNE 125LW	1	Basic Maternal Child Lab	
	26	**SUBTOTAL**	
	42/44	**TOTAL CREDITS REQUIRED/CERTIFICATE**	

1. Students must have completed BIO 152 and BIO 153 or BIO 240 and BIO 241 within the past ten years. If this time period is exceeded, an approved biology course must be taken to refresh this content. Please see the nursing program coordinator to determine which course(s) must be taken.
2. It is important that you check a semester ahead of time when you plan on validating for the nursing program to make sure course requirements have not changed. Updated information can be found through the nursing web page: www.delta.edu/nursing, calling the Counseling Office (989-686-9330) or the Nursing Discipline Office (989-686-9500).
3. Prerequisite qualifications for validation are: (a) be admitted to Delta College, (b) provide transcripts reflecting high school diploma or GED, and all other colleges or training institutions attended, (c) completion of core courses with a grade of "C" or better and an overall GPA of 2.5 or greater for validation. Math competency exam is offered through the Assessment/Testing Office in D-101. All listed requirements must be completed for graduation. A minimum prerequisite of Reading Level 4 is required for validation.
4. Due to the limited capacity of clinical facilities and the specific requirements of the accreditation agencies, this Program is considered a "limited enrollment" program. You will be eligible to attempt to register for clinical courses only after successfully completing the prerequisite qualifications and receiving a "Semester and Year of Validation" from the Registrar's office. You must attempt registration for clinical entry each fall semester following validation until admission into the clinical portion of the program.
5. Prior to entrance into the first clinical course, you must provide documentation of current certification as a Nursing Assistant (CAN) in the State of Michigan. This documentation must be submitted to the Nursing Discipline Office (F226).
6. The Nursing Student Handbook contains additional information, requirements and specific program policies that you are required to comply with while enrolled in the nursing program. See www.delta.edu/nursing Nursing Student Handbook. You must comply with all Nursing Program Policies.
7. In addition to tuition and textbook costs, you must provide your own uniforms, clinic shoes, name tags and transportation to clinical agency settings, including possible parking charges. See www.delta.edu/nursing for program costs.
8. First semester PNE nursing courses (PNE 121W & PNE 121LW) are offered each Fall Semester. With successful progression, the student will complete the program the following August. If a student graduates from the Delta PN program and would like to pursue the transition track of the ADN program, there are two options: One option is the PN graduate must pass the NCLEX-PN exam and work full time as a LPN for a minimum of one year; or if the PN student carries a GPA of 3.0 or higher throughout the PN program (including prerequisites) and has all pre-requisites for the ADN program completed, the PN graduate who is successful on their NCLEX-PN exam, may validate for the LPN to ADN Transition track and attempt registration for the next Transition entry class the following Winter. Refer to Nursing RN Transition Track for additional program information.

9. Program-Entry Health Requirements: You must submit an up-to-date complete physical examination report to the Nursing Office prior to entrance into the first clinical course. As a clinical student, you are required to have a TB skin test completed annually (A positive TB test will require a recent chest x-ray). The physical examination must confirm that you are free from communicable disease and capable of performing all the duties necessary for the safe care of patients. Proof of Hepatitis B vaccine immunization must be submitted with the physical exam form or you must submit a signed waiver form. For persons born after 1957, documentation of immunization for MMR must be provided. Evidence of current (within ten years) Tetanus immunization status is required. You must submit all up-to-date health requirements to the Nursing Discipline Office prior to entrance into the first clinical course. CPR Training: You must have a CPR card, which must remain current throughout the clinical program. A photocopy of your certificate must be turned in to the Nursing Discipline Office prior to the start of classes. The CPR certification must include one and two person rescuer, child and infant rescuer, airway obstruction relief, and use of AED. Students with expired CPR certification, TB test, and/or physical exam will not be allowed to attend clinical.
10. Any student with a previous or current felony/misdemeanor conviction must inform the Nursing Program Coordinator of said conviction. Students should be aware that a felony/misdemeanor conviction may constitute grounds for ineligibility to sit for the Nursing Licensure examination. Students should be aware that the current licensure application form now requires that a criminal background check requiring fingerprinting be completed. Questions regarding licensure can be found at http://www.michigan.gov/healthlicense or be directed to the Michigan Board of Nursing at 517-335-0918.
11. All entering nursing students must be fingerprinted as part of health care agency requirements and for the Michigan Nursing Scholarship. Students will complete and sign a release form allowing Delta College Public Safety to complete a background check. Information about this process will be provided to the student at orientation. Results of the background check will be secured and kept confidential, but may be shared with clinical agencies when requested or as otherwise required by law. If results indicate a felony/misdemeanor conviction, the Nursing Program Coordinator will discuss the findings and the process with the student. A felony/misdemeanor conviction may delay or end the student's nursing education, delay graduation, or change the curriculum from which the student may graduate.
12. If a student in good standing (2.0 or better) or granted reentry into the program has a period of inactivity within a program track that exceeds 18 months, the student will need to revalidate for a program track and complete the entire clinical program.
13. A person can achieve PNE program completion if NUR/NPT 101A,NUR/NPT 101AL, NUR/NPT 101B, NUR/NPT 101BL, NUR/NPT 115, NUR/NPT 115L, NUR/NPT 116, NUR/NPT 116L, NUR/NPT 240, and NUR/NPT 240L are successfully completed.
14. Certificate Requirements: Earn a minimum of two-thirds of program credits or 24 credits at Delta College, whichever is less. Note that the nursing program handbook requires at least two semesters of the clinical program be taken at Delta College in order to graduate from the nursing program.
15. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
16. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Practicl Nurse Adv Cert**

Practicl Nurse Adv Cert

Total Program Cost (In District):	$6,213.40
On-Time Completion Rate:	67.60%
Program Job Placement Rate:	85.71%
Median Loan Dept:	$0.00

Professional Studies In Office Administration - Certificate of Achievement

Program Code: CBZ.35297

The Professional Studies in Office Administration Certificate was created for the individual who is already employed in business and wants to apply new learning to the workplace. It provides the employed individual the opportunity to upgrade present office skills and acquire new competencies. This certificate offers a flexible academic framework for professional development through a "menu" approach to course selection.
It is strongly suggested that students starting this certificate have an ability level equivalent to OAT 150 Business English, OAT 170 Keyboarding, and CST 103 Windows Foundations.

Choose 3-9 credits from each category.

Category 1: Communications

Course	Credits	Course Title	Completed
COM 112W	3	Fundamentals of Oral Communication	
COM 114W	3	Interpersonal Communication	
COM 202W	3	Oral Communication for Managers	
CST 135	1	Help Desk Fundamentals	
ENG 113	3	Technical Communication	
ENG 195W	2	Library Research Skills **OR**	
LIB 195W	(2)	Library Research Skills	
MGT 145	3	Principles of Sales	
OAT 151	3	Business Communication I	
OAT 152	3	Business Communication II	
PHL 203W	3	Business Ethics	
PHL 210W	2	Information Technology Ethics & Law	
PSY 101W	3	Applied Psychology	
	3/9	**SUBTOTAL**	

Category 2: Office/Management

Course	Credits	Course Title	Completed
ACC 111	4	Introductory Accounting **OR**	
ACC 211	(4)	Principles of Accounting I	
ACC 212	4	Principles of Accounting II	
ACC 233	3	Cost Accounting	
ENT 131W	3	Entrepreneurship/Small Business Management I	
MGT 110	3	Business Mathematics	
MGT 153W	3	Introduction to Business	
MGT 245	3	Principles of Management	
MGT 265	3	International Business	
OAT 105W	1	Time Management	
OAT 155W	2	Editing	
OAT 157	2	File Management	
OAT 175	2	Electronic Calculation	
OAT 268	3	Administrative Office Practices	
	3/9	**SUBTOTAL**	

Category 3: Technology

Course	Credits	Course Title	Completed
CST 104	1	Microsoft Word Foundations	
CST 105	1	Outlook	
CST 106	1	Internet Foundations	
CST 107	1	Microsoft Publisher	
CST 110	1	Web Page Development Using HTML	
CST 123	1	Windows Operating System	
CST 134	3	Micro Computers in Business Using MS Office	
CST 146	2	Desktop Publishing	
CST 147	2	Presentation Graphics Using PowerPoint	
CST 151	2	Spreadsheet Fundamentals **OR**	
CST 155	(3)	Microsoft Excel	
CST 204	2	Microsoft Word: Intermediate	
CST 210	2	Advanced Web Page Development	
CST 257	3	Database MS Access	
OAT 171	3	Document Processing: Beginning	
OAT 172	3	Document Processing: Intermediate	
OAT 273	3	Document Processing: Advanced	
OAT 285W	3	Office Technology	
	3/9	**SUBTOTAL**	
	18	**TOTAL CREDITS REQUIRED**	

1. Many classes have prerequisites. Check the current Delta College catalog or consult with the Counseling & Advising Center for the proper sequencing of courses.
2. If you are interested in completing other certificates or degrees at Delta College, consult with the Counseling & Advising Center for help with your course selection.
3. It is strongly suggested that students starting this certificate have an ability level equivalent to OAT 150 Business English, OAT 170 Keyboarding, and CST 103 Windows Foundations.
4. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
5. Delta College reserves the right to modify graduation requirements.

Quality Assurance - Certificate of Achievement

Program Code: CTZ.35877

Quality professionals work within the quality assurance function to ensure that customer requirements are met. They work with measurements, statistics, and other elements within the quality assurance system. Problem solving and verification activities are also an important function of the quality professional's responsibility. Information and skills are needed by today's quality professional to ensure the quality function is being performed correctly. This certificate is designed to ensure that quality professionals in various businesses and industries acquire the information and skills needed to be effective.

Basic Program Requirements

Course	Credits	Course Title	Completed
MTH 208W	3	Elementary Statistics	
QA 110	1	Quality Problem Solving Tools	
QA 120	2	Quality & Productivity Mgmt.	
QA 124	3	Quality Systems I	
QA 126	3	Quality Systems II	
QA 131	2	Quality Auditing	
QA 140	3	Measurement Systems	
QA 191	1	Quality Teamwork	
QA 244	3	Statistical Process Control	
	21	**SUBTOTAL**	
	21	**TOTAL CREDITS REQUIRED FOR CERTIFICATE**	

1. A grade of "C" (2.0) or higher is required in all courses for the certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Quality Management - Certificate of Achievement

Program Code: CTZ.35878

Upon completion of the Quality Management Certificate, you will have the knowledge and skills necessary to effectively plan and implement an internal quality system. In today's competitive business environment, a system to ensure that the customer's needs are identified and requirements are met is a business function. Quality Assurance professionals must maintain an effective quality system no matter what business, industry, organization or governmental body they work for. This certificate is designed for those people working in various fields and occupations who are responsible for the management of the quality assurance function.

Basic Program Requirements

Course	Credits	Course Title	Completed
QA 120	2	Quality & Productivity Mgmt.	
QA 124	3	Quality Systems I	
QA 126	3	Quality Systems II	
QA 131	2	Quality Auditing	
QA 191	1	Quality Teamwork	
	11	**SUBTOTAL**	
	11	**TOTAL CREDITS REQUIRED FOR CERTIFICATE**	

1. A grade of "C" (2.0) or higher is required in all courses for the certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Radiography - Associate in Applied Science

Program Code: AAS.20545

Working under the supervision of a physician, Radiographers (also called Radiologic Technologists) assist in patient care and diagnosis through the use of x-ray equipment to take images of the internal structures of a patient's body. Radiographers position the patient; provide appropriate patient care; determine and set exposure factors; expose and process the required number of radiographs; prepare and help administer chemical mixtures called contrast media; assist in fluoroscopic examinations; and use radiation protection devices and techniques. Upon successfully completing this program, you are eligible to take the national certification examination administered by the American Registry of Radiologic Technologists. This program is accredited by the Joint Review Committee on Education in Radiologic Technology.

General Education Courses

Course	Credits	Course Title	Completed
BIO 140W	5	Essentials Of Human Anatomy & Physiology	
		OR	
BIO 152W	(4)	Human Anatomy & Physiology I **AND**	
BIO 153W	(4)	Human Anatomy & Physiology II	
		OR	
BIO 240	(4)	Human Anatomy **AND**	
BIO 241	(4)	Physiology	
CST 103	1	Windows Foundations	
		OR	
CST 133W	(4)	Computer Concepts & Competencies	
ENG ---	3/5	Any Approved College Composition I Course	
ENG ---	3/5	Any Approved College Composition II Course	
		OR	
ENG 113	(3)	Technical Communication	
HSC 105	2	Medical Terminology	
POL ---	3/4	Any Approved American Government Requirement	
PSY 101W	3	Applied Psychology	
		OR	
PSY 211W	(4)	General Psychology	
	20/32	**SUBTOTAL**	

Prior to attempting to register to begin the clinical sequence, you must complete the above courses and the "Validation Application." See Validation Procedures in this catalog for the required process.

Clinical Course Sequence:

First Semester (Fall)

Course	Credits	Course Title	Completed
RAD 100	2	Basic Science of Medical Imaging	
RAD 104W	2	Introduction to Medical Imaging	
RAD 105	3	Fundamentals of Radiography	
RAD 108	2	Patient Care and Management	
RAD 110	2	Principles of Radiographic Exposure	
LW 206A	1	Occupational Wellness 1	
	12	**SUBTOTAL**	

Second Semester (Winter)

Course	Credits	Course Title	Completed
RAD 120W	2	Principles of Radiation Biology and Protection	
RAD 130	2	Radiographic Procedures 1	
RAD 135	6	Clinical Education I	
RAD 140W	1	Clinical Seminar 1	
LWA 206B	0.5	Occupational Wellness 2	
LWA 206C	0.5	Occupational Wellness 3	
	12	**SUBTOTAL**	

Third Semester (Spring)

Course	Credits	Course Title	Completed
RAD 150	2	Radiographic Procedures 2	
RAD 160	7	Clinical Education 2	
RAD 165W	1	Clinical Seminar 2	
	10	**SUBTOTAL**	

Fourth Semester (Fall)

Course	Credits	Course Title	Completed
RAD 205W	1	Pharmacology in Imaging	
RAD 210W	1	Pathology in Radiography	
RAD 212	1	Advanced Imaging Equipment	
RAD 215	2	Radiographic Procedures 3	
RAD 220	7	Clinical Education 3	
RAD 225W	1	Clinical Seminar 3	
	13	**SUBTOTAL**	

Fifth Semester (Winter)

Course	Credits	Course Title	Completed
RAD 230	1	Quality Improvement in Imaging	
RAD 235	2	Radiographic Procedures 4	
RAD 245	7	Clinical Education 4	
RAD 258W	2	Radiography Capstone Seminar	
RAD 264	1	Cross Sectional Imaging	
	13	**SUBTOTAL**	
	80/92	**TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE**	

1. Approximately 18 students will be accepted each Fall Semester for Radiography courses. After successfully completing the prerequisites qualifications and submitting a "Validation Application for Occupational Programs," you will be eligible to register. See Validation Procedures in this catalog for the required process.
2. Program qualifications include: (a) high school graduate or GED equivalent; (b) be admitted to Delta College; (c) provide transcripts from high school and all other colleges attended.
3. Validation requirements: (a) LEVEL 4 READING competency; (b) LEVEL 4 MATH Competency. Math courses are to have been taken within the last five years. c) Successful completion of each of the prerequisite courses. A minimum grade of "B" (3.0) is required for any BIO course accepted for validation. (d) A required meeting with the program coordinator to provide the student an orientation related to the field of radiology, which may involve being required to go to an area healthcare facility.
4. Other program requirements: (a) Current CPR certification (for the Professional Rescuer) is required for admission to the clinical sequence. CPR currency must be maintained throughout the program. (b) Submit a completed Health Appraisal Form which requires a negative TB test. (c) Submit evidence of Hepatitis B immunization OR signed waiver form provided during orientation.
5. If you are anticipating pursuing a Baccalaureate Degree BIO 152 and BIO 153 are required for most transfer programs.
6. Radiography Program courses are offered day and evening hours and must be taken together in the sequence shown. Clinical Education courses are conducted primarily during daytime hours; however, off-shifts (second and third shifts) may be assigned to meet course objectives.
7. You must achieve a "C" (2.0) minimum grade in each Radiography course to be eligible to continue in and graduate from the Program. You must comply with all Radiography Program Progression and Retention Policies (copies available from the Health Programs counselor or program faculty.)
8. In addition to tuition, fees, and textbook costs, you must purchase uniforms, nametags, and clinic shoes; provide your transportation to clinic settings; pay for meals, parking fees, and any medical treatment that may become necessary.
9. Any student with a previous or current felony or misdemeanor conviction must inform the Radiography Program Coordinator and/or Radiography counselor of said conviction. Students should be aware that a felony or misdemeanor conviction may constitute grounds for ineligibility to sit for the American Registry of Radiologic Technologists national certifying examination. Students should be aware that the current ARRT application form requests that the following information be reported: Conviction of a felony or misdemeanor; Misdemeanor speeding convictions related to alcohol or drug use; Pleas of guilty; Plea of nolo contendere; Withheld adjudication; Suspended sentence; Military court-martial. Questions may be directed to the American Registry of Radiologic Technologists, (651) 687-0048, or www.arrt.org.
10. Agency contracts with health care institutions may prohibit students with felony or misdemeanors to enter the facility and thus possibly prohibit course completion and progression in the program.
11. See also "Dual Degrees."
12. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
13. Delta College reserves the right to modify graduation requirements.
14. If you plan to pursue an advanced degree, see pages ADVANVED_DEGREE_PAGES for special transfer agreements.

Residential Construction - Advanced Certificate

Program Code: CTA.35889

The Certificate Program is designed to prepare you for jobs in rough carpentry and house framing with the skills you have learned in such areas as: job specifications and drawings, building materials, use of woodworking the surveying tools, cost estimations, concrete work, and exterior finishing. Completion of this program preempts years of apprenticeship in the construction field. You may become self-employed or find employment with a contractor or in a building supply center.

In addition to skills gained from courses completed in the Residential Construction Certificate Program, students completing the Associate degree will have learned construction techniques in interior trim, cabinet making and installation, equipment installation, and interior finishing. The Program also offers the breadth of education necessary for a successful self-employed business or lumberyard management and has the support of the home builders association.

Core Courses

Course	Credits	Course Title	Completed
RC 101	3	Construction Print Interpretation	_____
RC 104	3	Construction Lab	_____
RC 106	3	Concrete and Foundations	_____
RC 108	2	Construction Safety	_____
RC 114	4	Framing Square	_____
RC 200	3	Construction Contracting Rules and Regulations	_____
RC 201	4	Rough and Outside Framing	_____
RC 203	3	Residential CAD	_____
RC 204	4	Inside Finishing and Hardware	_____

29 TOTAL CREDITS

1. A Grade of "C" (2.0) or higher is required in all courses for the certificate.
2. RC 201 Rough and Outside Framing (Fall semester), and RC 204 Inside Finishing and Hardware (Winter semester) are to be taken in sequence in the same academic year.
3. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
4. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Residentl Constn Adv Cert**

Residentl Constn Adv Cert

Total Program Cost (In District):	$4,631.60
On-Time Completion Rate:	NA
Program Job Placement Rate:	NA
Median Loan Dept:	NA

Residential Construction - Associate in Applied Science

Program Code: AAS.15887

The Certificate Program is designed to prepare you for jobs in rough carpentry and house framing with the skills you have learned in such areas as: job specifications and drawings, building materials, use of woodworking the surveying tools, cost estimations, concrete work, and exterior finishing. Completion of this program preempts years of apprenticeship in the construction field. You may become self-employed or find employment with a contractor or in a building supply center.

In addition to skills gained from courses completed in the Residential Construction Certificate Program, students completing the Associate degree will have learned construction techniques in interior trim, cabinet making and installation, equipment installation, and interior finishing. The Program also offers the breadth of education necessary for a successful self-employed business or lumberyard management and has the support of the home builders association.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course **AND**	
ENG ---	3	Any Approved College Composition II Course	
		OR	
ENG ---	(3)	Any Approved College Composition I Course **AND**	
ENG 113	(3)	Technical Communication	
LW ---	1	Any 1 Credit LW Course (As of fall 2007) **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
		OR	
LW 223W	(2)	Wellness in Technical Trades	
POL ---	3/4	Any Approved American Government Requirement	
MTH ---	4	Any Approved Intermediate Algebra Course or Higher	
	15/19	**SUBTOTAL**	

Core Program Requirements

Course	Credits	Course Title	Completed
ARC 101	3	Materials and Methods of Construction	
ARC 111	3	Mechanical and Electrical Systems for Buildings	
ARC 204	3	Estimating Building Construction	
ARC 211	2	Elements of Structural Design	
ARC 221	3	Site Preparation	
RC 101	3	Construction Print Interpretation	
TTI 110	2	Sustainable Building Principles	
	19	**SUBTOTAL**	

Successful completion of the Core Program courses prepare the student for completing the Architectural Technology Associate Degree, The Construction Management Associate Degree, or the Residential Construction Degree. Please refer to the catalog page for the relevant Program Requirement Courses.

Program Requirement Courses for Residential Construction

Course	Credits	Course Title	Completed
RC 104	3	Construction Lab	
RC 106	3	Concrete and Foundations	
RC 108	2	Construction Safety	
RC 114	4	Framing Square	
RC 200W	3	Construction Contracting Rules and Regulations	
RC 201	4	Rough and Outside Framing	
RC 203	3	Residential CAD	
RC 204	4	Inside Finishing and Hardware	
RC 205	5	Cabinet Making and Millwork	
TTI 120	3	Energy Auditing and Weatherization	
	34	**SUBTOTAL**	
	68/72	**TOTAL CREDITS**	

1. A grade of "C" (2.0) or higher is required in all Core courses for the degree.
2. Demonstrate an acceptable score on the current College assessment instrument
3. Students planning to transfer should take any approved College Composition II requirement.
4. RC 201 Rough and Outside Framing (Fall semester), and RC 204 Inside Finishing and Hardware (Winter semester) are to be taken in sequence in the same academic year.
5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
6. Delta College reserves the right to modify graduation requirements.

Respiratory Care - Associate in Applied Science

Program Code: AAS.20579

Respiratory Therapists in Michigan are licensed health care providers. In order to be licensed you must earn a minimum of an Associate degree and successfully complete National exams. As a Respiratory Therapist you will be qualified to assume primary clinical responsibility for all respiratory care modalities, including responsibilities involved in the supervision of Certified Respiratory Therapist functions. The registered therapist is also capable of serving as a resource person to the physician with regard to current practices in respiratory care and to the hospital staff regarding effective and safe methods for administering respiratory care. Respiratory therapists who have a minimum of an associate degree from a respiratory therapy education program supported by the Commission on Accreditation for Respiratory Care (CoARC), or its predecessors the Committee on Accreditation for Respiratory Care (CoARC), or the Joint Review Committee for Respiratory Therapy Education (JRCRTE) are eligible to apply for registration by the National Board for Respiratory Care. The process consists of two written exams and clinical simulation. Applicants must pass all three to be awarded the Registered Respiratory Therapist (RRT) credential.

General Education Courses - Section I

Course	Credits	Course Title	Completed
BIO 140W	5	Essentials Of Human Anatomy & Physiology	
		OR	
BIO 152W	(4)	Human Anatomy & Physiology I **AND**	
BIO 153W	(4)	Human Anatomy & Physiology II	
		OR	
BIO 240	(4)	Human Anatomy **AND**	
BIO 241	(4)	Physiology	
HSC 105	2	Medical Terminology	
RT 100	2	Basic Sciences for Respiratory Care	
	9/12	**SUBTOTAL**	

General Education Courses - Section II

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course	
ENG 113	3	Technical Communication	
LW ---	1	Any 1 Credit LW Course (As of fall 2007) **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
POL ---	3/4	Any Approved American Government Requirement	
PHL 215W	3	Health Care Ethics	
		OR	
PSY 101W	(3)	Applied Psychology	
		OR	
PSY 211W	(4)	General Psychology	
		OR	
SOC 211W	(3)	Principles of Sociology	
		OR	
COM 112W	(3)	Fundamentals of Oral Communication	
	14/16	**SUBTOTAL**	

Clinical Course Sequence

First Semester (Fall)

Course	Credits	Course Title	Completed
RT 117	3	Basic Respiratory Care I	
RT 118	3	Basic Respiratory Care II	
RT 121	2	Orientation to RC as a Profession	
RT 126	3	Clinical Education I	
RT 131	2	Artificial Airway Care and Manual Ventilation	
	13	**SUBTOTAL**	

Second Semester (Winter)

Course	Credits	Course Title	Completed
RT 132	3	Adult Ventilatory Care	
RT 135	4	Diagnostics and Special Procedures	
RT 146	6	Clinical Education II	
RT 149	1	Clinical Education 2 Seminar	
	14	**SUBTOTAL**	

Third Semester (Spring)

Course	Credits	Course Title	Completed
RT 150	3	Cardiovascular Evaluation and Monitoring	
	3	**SUBTOTAL**	

Fourth Semester (Fall)

Course	Credits	Course Title	Completed
RT 207	3	Cardiopulmonary Pathophysiology	
RT 211	3	Advanced Cardiopulmonary Physiology	
RT 212	2	Advanced Ventilator Management	
RT 214	1	Seminar I	
RT 216	1	Rehabilitation and Home Care	
RT 226	6	Clinical Education III	
RT 229	1	Clinical Education 3 Seminar	
	17	**SUBTOTAL**	

Fifth Semester (Winter)

Course	Credits	Course Title	Completed
RT 231	2	Maternal and Neonatal Respiratory Care	
RT 234	1	Seminar II	
RT 240	3	Advanced Respiratory Care Pharmacology	
RT 244	1	Optional Rotation/Special Project	
RT 246	8	Comprehensive Clinical Education	
	15	**SUBTOTAL**	
	85/90	**TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE**	

1. Prerequisite qualifications for validation are: high school graduate or GED equivalent; be admitted to Delta College; provide transcripts from high school and all other colleges attended; and completion of Section I courses with a "C" (2.0) minimum grade with the exception of BIO 140 & RT 100 which must be completed with a "B" (3.0)
2. Completion of Section I courses is required for Validation. It is strongly recommended that Section II courses be completed prior to the clinical experience. All courses in Section I and II are required for the Associate Degree.
3. RT 100 has a prerequisite math requirement that Algebra must have been taken within the past 5 years.
4. RT 100 includes a required job shadow experience to become validated. This may require that students complete an online training session, have proof of a negative TB tine test and other supporting documentation before gaining access to the agency.
5. A maximum of 15 students will be accepted each Fall Semester for Respiratory Care courses from qualified students who have been assigned a "semester and year of validation." You will be placed on this list only after successfully completing the prerequisite qualifications and submitting a "Validation Application" to the Registrar's Office. See Validation Procedures in this catalog for the required procedures.
6. After you receive notification of acceptance for the Fall Semester, you must have a complete physical examination including a negative TB test.
7. In addition to tuition and textbook costs, you must purchase a laboratory coat, protective eye wear, name tag, provide your own transportation to clinical settings (plus possible hospital parking charges), and purchase three Self-Assessment Exams (total cost approximately $150) during the final semester in the Program. Also, students will be required to attend one Michigan Society for Respiratory Care (MSRC) seminar in the second year of the program.
8. RT courses are offered day hours only and generally must be taken together in the sequence shown. You must achieve a minimum "C" (2.0) grade in each RT course to be eligible to continue in the Program.
9. Admission to and continuance in the Program is contingent upon your compliance with all policies contained in the Respiratory Care Student handbook. Reentry into the program is outlined in the handbook and is based on available seating within the program.
10. If you have prior respiratory therapy work experience, you may be eligible to waive or receive equivalent credit for some RT courses.
11. Also see "Dual Degrees."
12. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
13. Delta College reserves the right to modify graduation requirements.

Skilled Trades (Apprenticeship) - Carpenter (Building Trades) - Advanced Certificate

Program Code: CTA.35900

The following advanced certificate is representative of typical Trade Related Instruction for Carpenters. Employers are not restricted to this program and may elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction should call the Skilled Trades Program Manager at 989-686-9476. Upon successful completion of all courses listed below, apprentices may apply for the advanced certificate with the Registrar's Office. Prior academic course work or journeyperson card may be acceptable.

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders. These programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or (989) 686-9594.

Since many company apprenticeships programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journeyperson's card.

Core Courses

Course	Credits	Course Title	Completed
ARC 204	3	Estimating Building Construction	
SKCT 102	3	Building Materials	
SKCT 105	3	Building Site Surveying	
SKCT 106	3	Concrete and Foundations	
SKCT 111	3	Construction Print Interpretation	
SKCT 114	4	Framing Square	
SKCT 201	4	Rough and Outside Framing	
SKCT 204	4	Inside Finishing and Hardware	
SKCT 205	5	Cabinet Making and Millwork	
SKMT 161	2	Industrial Rigging and Safety	
SKWL 103	3	Introduction to Plasma, Carbon Arc, and Fuel Gas Cutting	

37 TOTAL CREDITS

1. File an application with the Registrar's Office to obtain the advanced certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Skilled Trades Carpenter**

Skilled Trades Carpenter

Total Program Cost (In District):	$5,350.60
On-Time Completion Rate:	NA
Program Job Placement Rate:	NA
Median Loan Dept:	NA

Skilled Trades (Apprenticeship) - Carpenter (Building Trades) - Associate in Applied Science

Program Code: AAS.60900

As an apprentice, you may apply your related training towards an Associate in Applied Science Degree. In addition to the degree requirements listed below, the following requirements must also be met: 1) Successful completion of all courses listed in a specific related training program (32-40 credits); 2) Successful completion of appropriate supportive study elective courses. Supportive electives are courses taken to fit your individual needs. Prior academic course work may be acceptable. Assistance in selecting electives is available from a Delta College counselor familiar with technical career programs; 3) A journeyman card or equivalent trade experience.

APPRENTICESHIP TRADE RELATED INSTRUCTION PROGRAMS

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders in the industrial trades, building trades, and maintenance trades from the tri-county and surrounding areas. Trade Related Instruction Programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or 686-9594.

Since many company apprenticeship programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journeyman's card only a completion certificate.

The following program is representative of the typical Trade Related Instruction Programs Delta College offers in conjunction with area employers. Employers, however, are not restricted to just these programs and many elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction Programs should call the Skilled Trades Program Manager at (989) 686-9594 or 686-9476.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course **AND**	
ENG ---	3	Any Approved College Composition II Course	
		OR	
ENG ---	(3)	Any Approved College Composition I Course **AND**	
ENG 113	(3)	Technical Communication	
		OR	
OAT 151	(3)	Business Communication I **AND**	
OAT 152	(3)	Business Communication II	
LW 220W	1	Lifelong Wellness **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
		OR	
LW 223W	(2)	Wellness in Technical Trades	
POL ---	3/4	Any Approved American Government Requirement	
	11/12	**SUBTOTAL**	

Suggested Electives

Course	Credits	Course Title	Completed
		Economics Courses (ECN)	
		General Management Courses (MGT)	
		Manufacturing and Industrial Technology Courses (MIT)	
		Mechanical Technology Courses (MT)	
		Psychology Courses (PSY)	
	13/14	**SUBTOTAL**	

Core Courses

Course	Credits	Course Title	Completed
ARC 204	3	Estimating Building Construction	
SKCT 102	3	Building Materials	
SKCT 105	3	Building Site Surveying	
SKCT 106	3	Concrete and Foundations	
SKCT 111	3	Construction Print Interpretation	
SKCT 114	4	Framing Square	
SKCT 201	4	Rough and Outside Framing	
SKCT 204	4	Inside Finishing and Hardware	
SKCT 205	5	Cabinet Making and Millwork	
SKMT 161	2	Industrial Rigging and Safety	
SKWL 103	3	Introduction to Plasma, Carbon Arc, and Fuel Gas Cutting	
	37	**SUBTOTAL**	
	62	**TOTAL CREDITS**	

1. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
2. Delta College reserves the right to modify graduation requirements.

Skilled Trades (Apprenticeship) - Electrician (Industrial) - Advanced Certificate

Program Code: CTA.35901

The following advanced certificate is representative of typical Trade Related Instruction for Electrician (industrial). Employers are not restricted to this program and may elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction should call the Skilled Trades Program Manager at 989-686-9476. Upon successful completion of all courses listed below, apprentices may apply for the advanced certificate with the Registrar's Office. Prior academic course work or journeyperson card may be acceptable.

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders. These programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or (989) 686-9594.

Since many company apprenticeships programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journeyperson's card.

Core Courses

Course	Credits	Course Title	Completed
SKMA 111	6	Applied Integrated Electrical Math I	
SKMA 112	3	Applied Integrated Electrical Mathematics II	
SKMA 113	3	Applied Integrated Electrical Math III	
SKEL 111	3	Conventional Controls	
SKEL 101	6	Basic Electronics	
SKEL 102	4	Industrial Electronics	
SKEL 131	3	AC/DC Machinery	
SKEL 121	5	Advanced Controls I	
SKEL 122	4	Advanced Controls II	
SKEL 141	3	Industrial Electrical Codes & Standards	

40 TOTAL CREDITS

1. File an application with Registrar's Office to obtain the advanced certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Skilled Trades Electrician**

Skilled Trades Electrician

Total Program Cost (In District):	$5,782.00
On-Time Completion Rate:	NA
Program Job Placement Rate:	NA
Median Loan Dept:	NA

Skilled Trades (Apprenticeship) - Electrician (Industrial) - Associate in Applied Science

Program Code: AAS.60901

As an apprentice, you may apply your related training towards an Associate in Applied Science Degree. In addition to the degree requirements listed below, the following requirements must also be met: 1) Successful completion of all courses listed in a specific related training program (32-40 credits); 2) Successful completion of appropriate supportive study elective courses. Supportive electives are courses taken to fit your individual needs. Prior academic course work may be acceptable. Assistance in selecting electives is available from a Delta College counselor familiar with technical career programs; 3) A journeyman card or equivalent trade experience.

APPRENTICESHIP TRADE RELATED INSTRUCTION PROGRAMS

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders in the industrial trades, building trades, and maintenance trades from the tri-county and surrounding areas. Trade Related Instruction Programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or 686-9594.

Since many company apprenticeship programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journeyman's card only a completion certificate.

The following program is representative of the typical Trade Related Instruction Programs Delta College offers in conjunction with area employers. Employers, however, are not restricted to just these programs and many elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction Programs should call the Skilled Trades Program Manager at (989) 686-9594 or 686-9476.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course **AND**	
ENG ---	3	Any Approved College Composition II Course	
		OR	
ENG ---	(3)	Any Approved College Composition I Course **AND**	
ENG 113	(3)	Technical Communication	
		OR	
OAT 151	(3)	Business Communication I **AND**	
OAT 152	(3)	Business Communication II	
LW 220W	1	Lifelong Wellness **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
		OR	
LW 223W	(2)	Wellness in Technical Trades	
POL ---	3/4	Any Approved American Government Requirement	
	11/12	**SUBTOTAL**	

Suggested Electives

Course	Credits	Course Title	Completed
		Economics Courses (ECN)	
		General Management Courses (MGT)	
		Manufacturing and Industrial Technology Courses (MIT)	
		Mechanical Technology Courses (MT)	
		Psychology Courses (PSY)	
	11	**SUBTOTAL**	

Core Courses

Course	Credits	Course Title	Completed
SKEL 101	6	Basic Electronics	
SKEL 102	4	Industrial Electronics	
SKEL 111	3	Conventional Controls	
SKEL 121	5	Advanced Controls I	
SKEL 122	4	Advanced Controls II	
SKEL 131	3	AC/DC Machinery	
SKEL 141	3	Industrial Electrical Codes & Standards	
SKMA 111	6	Applied Integrated Electrical Math I	
SKMA 112	3	Applied Integrated Electrical Mathematics II	
SKMA 113	3	Applied Integrated Electrical Math III	
	40	**SUBTOTAL**	
	62/63	**TOTAL CREDITS**	

1. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
2. Delta College reserves the right to modify graduation requirements.

Skilled Trades (Apprenticeship) - Jobbing Molder - Advanced Certificate

Program Code: CTA.35902

The following advanced certificate is representative of typical Trade Related Instruction for Jobbing Molder. Employers are not restricted to this program and may elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction should call the Skilled Trades Program Manager at (989)-686-9476. Upon successful completion of all courses listed below, apprentices may apply for the advanced certificate with the Registrar's Office. Prior academic course work or journeyperson card may be acceptable.

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders. These programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or (989) 686-9594.

Since many company apprenticeships programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journeyperson's card.

Core Courses

Course	Credits	Course Title	Completed
SKCN 162	4	Computer Numerical Control Theory	
SKCN 216	4	CNC with Machining Applications	
SKDR 101	3	Blueprint Reading	
SKDR 111	3	Drawing II	
SKDR 133	4	Fundamentals of Tooling Design	
SKMA 103	4	Applied Geometry and Trigonometry	
SKMT 111	3	Metals	
SKMT 231	3	Fundamentals of Foundry Technology	
SKPH 101	4	Applied Physics	
SKTR 181W	4	Machine Tools I	
SKTR 182	4	Machine Tools II	
SKTR 183	3	Machinery Handbook	

43 TOTAL CREDITS

1. File an application with the Registrar's Office to obtain the advanced certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Skilled Trades Jobbing Molder**

Skilled Trades Jobbing Molder

Total Program Cost (In District):	$5,782.00
On-Time Completion Rate:	NA
Program Job Placement Rate:	NA
Median Loan Dept:	NA

Skilled Trades (Apprenticeship) - Jobbing Molder - Associate in Applied Science

Program Code: AAS.60902

As an apprentice, you may apply your related training towards an Associate in Applied Science Degree. In addition to the degree requirements listed below, the following requirements must also be met: 1) Successful completion of all courses listed in a specific related training program (32-40 credits); 2) Successful completion of appropriate supportive study elective courses. Supportive electives are courses taken to fit your individual needs. Prior academic course work may be acceptable. Assistance in selecting electives is available from a Delta College counselor familiar with technical career programs; 3) A journeyman card or equivalent trade experience.

APPRENTICESHIP TRADE RELATED INSTRUCTION PROGRAMS

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders in the industrial trades, building trades, and maintenance trades from the tri-county and surrounding areas. Trade Related Instruction Programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or 686-9594.

Since many company apprenticeship programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journeyman's card only a completion certificate.

The following program is representative of the typical Trade Related Instruction Programs Delta College offers in conjunction with area employers. Employers, however, are not restricted to just these programs and many elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction Programs should call the Skilled Trades Program Manager at (989) 686-9594 or 686-9476.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course **AND**	
ENG ---	3	Any Approved College Composition II Course	
		OR	
ENG ---	(3)	Any Approved College Composition I Course **AND**	
ENG 113	(3)	Technical Communication	
		OR	
OAT 151	(3)	Business Communication I **AND**	
OAT 152	(3)	Business Communication II	
LW 220W	1	Lifelong Wellness **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW 223W	(2)	Wellness in Technical Trades	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
POL ---	3/4	Any Approved American Government Requirement	
	11/12	**SUBTOTAL**	

Suggested Electives

Course	Credits	Course Title	Completed
		Economics Courses (ECN)	
		General Management Courses (MGT)	
		Manufacturing and Industrial Technology Courses (MIT)	
		Mechanical Technology Courses (MT)	
		Psychology Courses (PSY)	
	7/8	**SUBTOTAL**	

Core Courses

Course	Credits	Course Title	Completed
SKCN 162	4	Computer Numerical Control Theory	
SKCN 216	4	CNC with Machining Applications	
SKDR 101	3	Blueprint Reading	
SKDR 111	3	Drawing II	
SKDR 133	4	Fundamentals of Tooling Design	
SKMA 103	4	Applied Geometry and Trigonometry	
SKMT 111	3	Metals	
SKMT 231	3	Fundamentals of Foundry Technology	
SKPH 101	4	Applied Physics	
SKTR 181W	4	Machine Tools I	
SKTR 182	4	Machine Tools II	
SKTR 183	3	Machinery Handbook	
	43	**SUBTOTAL**	
	62	**TOTAL CREDITS**	

1. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
2. Delta College reserves the right to modify graduation requirements.

Skilled Trades (Apprenticeship) - Machine Builder - Advanced Certificate

Program Code: CTA.35903

The following advanced certificate is representative of typical Trade Related Instruction for Machine Builder. Employers are not restricted to this program and may elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction should call the Skilled Trades Program Manager at 989-686-9476. Upon successful completion of all courses listed below, apprentices may apply for the advanced certificate with the Registrar's Office. Prior academic course work or journeyperson card may be acceptable.

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders. These programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or (989) 686-9594.

Since many company apprenticeships programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journeyperson's card.

Core Courses

Course	Credits	Course Title	Completed
SKDR 101	3	Blueprint Reading	
SKMA 103	4	Applied Geometry and Trigonometry	
SKMT 220	3	Hydraulics and Pneumatics I	
SKMT 222	3	Hydraulics and Pneumatics II	
SKMT 151	3	Power Transmission	
SKMT 161	2	Industrial Rigging and Safety	
SKOT 191	3	Machine Controls 1	
SKOT 192	3	Machine Controls II	
SKPT 106	3	Pipefitters Handbook	
SKTR 181W	4	Machine Tools I	
SKTR 183	3	Machinery's Handbook	
SKWL 103	3	Introduction to Plasma, Carbon Arc, and Fuel Gas Cutting	
SKWL 104	3	Introduction to Shielded Metal Arc Welding	

40 TOTAL CREDITS

1. File an application with the Registrar's office to obtain the advanced certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Skilled Trades Machine Builder**

Skilled Trades Machine Builder

Total Program Cost (In District):	$5,638.20
On-Time Completion Rate:	NA
Program Job Placement Rate:	NA
Median Loan Dept:	NA

Skilled Trades (Apprenticeship) - Machine Builder - Associate in Applied Science

Program Code: AAS.60903

As an apprentice, you may apply your related training towards an Associate in Applied Science Degree. In addition to the degree requirements listed below, the following requirements must also be met: 1) Successful completion of all courses listed in a specific related training program (32-40 credits); 2) Successful completion of appropriate supportive study elective courses. Supportive electives are courses taken to fit your individual needs. Prior academic course work may be acceptable. Assistance in selecting electives is available from a Delta College counselor familiar with technical career programs; 3) A journeyman card or equivalent trade experience.

APPRENTICESHIP TRADE RELATED INSTRUCTION PROGRAMS

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders in the industrial trades, building trades, and maintenance trades from the tri-county and surrounding areas. Trade Related Instruction Programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or 686-9594.

Since many company apprenticeship programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journeyman's card only a completion certificate.

The following program is representative of the typical Trade Related Instruction Programs Delta College offers in conjunction with area employers. Employers, however, are not restricted to just these programs and many elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction Programs should call the Skilled Trades Program Manager at (989) 686-9594 or 686-9476.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course **AND**	
ENG ---	3	Any Approved College Composition II Course	
		OR	
ENG ---	(3)	Any Approved College Composition I Course **AND**	
ENG 113	(3)	Technical Communication	
		OR	
OAT 151	(3)	Business Communication I **AND**	
OAT 152	(3)	Business Communication II	
LW 220W	1	Lifelong Wellness **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
		OR	
LW 223W	(2)	Wellness in Technical Trades	
POL ---	3/4	Any Approved American Government Requirement	
	11/12	**SUBTOTAL**	

Suggested Electives

Course	Credits	Course Title	Completed
		Economics Courses (ECN)	
		General Management Courses (MGT)	
		Manufacturing and Industrial Technology Courses (MIT)	
		Mechanical Technology Courses (MT)	
		Psychology Courses (PSY)	
	10/11	**SUBTOTAL**	

Core Courses

Course	Credits	Course Title	Completed
SKDR 101	3	Blueprint Reading	
SKMA 103	4	Mathematics III	
SKMT 220	3	Hydraulics and Pneumatics I	
SKMT 222	3	Hydraulics and Pneumatics II	
SKMT 151	3	Power Transmission	
SKMT 161	2	Industrial Rigging and Safety	
SKOT 191	3	Machine Controls I	
SKOT 192	3	Machine Controls II	
SKPT 106	3	Pipefitters Handbook	
SKTR 181W	4	Machine Tools I	
SKTR 183	3	Machinery Handbook	
SKWL 103	3	Introduction to Plasma, Carbon Arc, and Fuel Gas Cutting	
SKWL 104	3	Introduction to Shielded Metal Arc Welding	
	40	**SUBTOTAL**	
	62	**TOTAL CREDITS**	

1. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
2. Delta College reserves the right to modify graduation requirements.
3. If you plan to pursue an advanced degree, see pages Page 29 for special transfer agreements.

Skilled Trades (Apprenticeship) - Machine Repair - Advanced Certificate

Program Code: CTA.35904

The following advanced certificate is representative of typical Trade Related Instruction for Machine Repair. Employers are not restricted to this program and may elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction should call the Skilled Trades Program Manager at 989-686-9476. Upon successful completion of all courses listed below, apprentices may apply for the advanced certificate with the Registrar's Office. Prior academic course work or journeyperson card may be acceptable.

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders. These programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or (989) 686-9594.

Since many company apprenticeships programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journeyperson's card.

Core Courses

Course	Credits	Course Title	Completed
SKCN 162	4	Computer Numerical Control Theory	
SKDR 101	3	Blueprint Reading	
SKDR 111	3	Drawing II	
SKMA 103	4	Applied Geometry and Trigonometry	
SKMT 220	3	Hydraulics and Pneumatics I	
SKMT 222	3	Hydraulics and Pneumatics II	
SKMT 111	3	Metals	
SKMT 161	2	Industrial Rigging and Safety	
SKPH 101	4	Applied Physics	
SKTR 181W	4	Machine Tools I	
SKTR 182	4	Machine Tools II	
SKTR 183	3	Machinery Handbook	
	40	**TOTAL CREDITS**	

1. File an application with the Registrar's Office to obtain the advanced certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Skilled Trades Machine Repair**

Skilled Trades Machine Repair

Total Program Cost (In District):	$5,494.40
On-Time Completion Rate:	NA
Program Job Placement Rate:	NA
Median Loan Dept:	NA

Skilled Trades (Apprenticeship) - Machine Repair - Associate in Applied Science

Program Code: AAS.60904

As an apprentice, you may apply your related training towards an Associate in Applied Science Degree. In addition to the degree requirements listed below, the following requirements must also be met: 1) Successful completion of all courses listed in a specific related training program (32-40 credits); 2) Successful completion of appropriate supportive study elective courses. Supportive electives are courses taken to fit your individual needs. Prior academic course work may be acceptable. Assistance in selecting electives is available from a Delta College counselor familiar with technical career programs; 3) A journeyman card or equivalent trade experience.

APPRENTICESHIP TRADE RELATED INSTRUCTION PROGRAMS

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders in the industrial trades, building trades, and maintenance trades from the tri-county and surrounding areas. Trade Related Instruction Programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or 686-9594.

Since many company apprenticeship programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journeyman's card only a completion certificate.

The following program is representative of the typical Trade Related Instruction Programs Delta College offers in conjunction with area employers. Employers, however, are not restricted to just these programs and many elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction Programs should call the Skilled Trades Program Manager at (989) 686-9594 or 686-9476.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course **AND**	
ENG ---	3	Any Approved College Composition II Course	
		OR	
ENG ---	(3)	Any Approved College Composition I Course **AND**	
ENG 113	(3)	Technical Communication	
		OR	
OAT 151	(3)	Business Communication I **AND**	
OAT 152	(3)	Business Communication II	
LW 220W	1	Lifelong Wellness **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
		OR	
LW 223W	(2)	Wellness in Technical Trades	
POL ---	3/4	Any Approved American Government Requirement	
	11/12	**SUBTOTAL**	

Suggested Electives

Course	Credits	Course Title	Completed
		Economics Courses (ECN)	
		General Management Courses (MGT)	
		Manufacturing and Industrial Technology Courses (MIT)	
		Mechanical Technology Courses (MT)	
		Psychology Courses (PSY)	
	10/11	**SUBTOTAL**	

Core Courses

Course	Credits	Course Title	Completed
SKCN 162	4	Computer Numerical Control Theory	
SKDR 101	3	Blueprint Reading	
SKDR 111	3	Drawing II	
SKMA 103	4	Mathematics III	
SKMT 220	3	Hydraulics and Pneumatics I	
SKMT 222	3	Hydraulics and Pneumatics II	
SKMT 111	3	Metals	
SKMT 161	2	Industrial Rigging and Safety	
SKPH 101	4	Applied Physics	
SKTR 181W	4	Machine Tools I	
SKTR 182	4	Machine Tools II	
SKTR 183	3	Machinery Handbook	
	40	**SUBTOTAL**	
	62	**TOTAL CREDITS**	

1. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
2. Delta College reserves the right to modify graduation requirements.

Skilled Trades (Apprenticeship) - Millwright - Advanced Certificate

Program Code: CTA.35905

The following advanced certificate is representative of typical Trade Related Instruction for Millwright. Employers are not restricted to this program and may elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction should call the Skilled Trades Program Manager at 989-686-9476. Upon successful completion of all courses listed below, apprentices may apply for the advanced certificate with the Registrar's Office. Prior academic course work or journeyperson card may be acceptable.

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders. These programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or (989) 686-9594.

Since many company apprenticeships programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journeyperson's card.

Core Courses

Course	Credits	Course Title	Completed
SKCT 101	3	Industrial Millwright Procedures	
SKDR 101	3	Blueprint Reading	
SKMA 103	4	Applied Geometry and Trigonometry	
SKMT 220	3	Hydraulics and Pneumatics I	
SKMT 222	3	Hydraulics and Pneumatics II	
SKMT 151	3	Power Transmission	
SKMT 161	2	Industrial Rigging and Safety	
SKMT 171	3	Sheetmetal Layout I	
SKPH 101	4	Applied Physics	
SKWL 103	3	Introduction to Plasma, Carbon Arc, and Fuel Gas Cutting	
SKWL 104	3	Introduction to Shielded Metal Arc Welding	

34 TOTAL CREDITS

1. File an application with the Registrar's Office to obtain the advanced certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Skilled Trades Millwright**

Skilled Trades Millwright

Total Program Cost (In District):	$5,063.00
On-Time Completion Rate:	NA
Program Job Placement Rate:	NA
Median Loan Dept:	NA

Skilled Trades (Apprenticeship) - Millwright - Associate in Applied Science

Program Code: AAS.60905

As an apprentice, you may apply your related training towards an Associate in Applied Science Degree. In addition to the degree requirements listed below, the following requirements must also be met: 1) Successful completion of all courses listed in a specific related training program (32-40 credits); 2) Successful completion of appropriate supportive study elective courses. Supportive electives are courses taken to fit your individual needs. Prior academic course work may be acceptable. Assistance in selecting electives is available from a Delta College counselor familiar with technical career programs; 3) A journeyman card or equivalent trade experience.

APPRENTICESHIP TRADE RELATED INSTRUCTION PROGRAMS

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders in the industrial trades, building trades, and maintenance trades from the tri-county and surrounding areas. Trade Related Instruction Programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or 686-9594.

Since many company apprenticeship programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journeyman's card only a completion certificate.

The following program is representative of the typical Trade Related Instruction Programs Delta College offers in conjunction with area employers. Employers, however, are not restricted to just these programs and many elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction Programs should call the Skilled Trades Program Manager at (989) 686-9594 or 686-9476.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course **AND**	
ENG ---	3	Any Approved College Composition II Course	
		OR	
ENG ---	(3)	Any Approved College Composition I Course **AND**	
ENG 113	(3)	Technical Communication	
		OR	
OAT 151	(3)	Business Communication I **AND**	
OAT 152	(3)	Business Communication II	
LW 220W	1	Lifelong Wellness **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW 223W	(2)	Wellness in Technical Trades	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
POL ---	3/4	Any Approved American Government Requirement	
	11/12	**SUBTOTAL**	

Suggested Electives

Course	Credits	Course Title	Completed
		General Management Courses (MGT)	
		Manufacturing and Industrial Technology Courses (MIT)	
		Mechanical Technology Courses (MT)	
		Psychology Courses (PSY)	
	16/17	**SUBTOTAL**	

Core Courses

Course	Credits	Course Title	Completed
SKCT 101	3	Industrial Millwright Procedures	
SKDR 101	3	Blueprint Reading	
SKMA 103	4	Mathematics III	
SKMT 220	3	Hydraulics and Pneumatics I	
SKMT 222	3	Hydraulics and Pneumatics II	
SKMT 151	3	Power Transmission	
SKMT 161	2	Industrial Rigging and Safety	
SKMT 171	3	Sheetmetal Layout I	
SKPH 101	4	Applied Physics	
SKWL 103	3	Introduction to Plasma, Carbon Arc, and Fuel Gas Cutting	
SKWL 104	3	Introduction to Shielded Metal Arc Welding	
	34	**SUBTOTAL**	
	62	**TOTAL CREDITS**	

1. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
2. Delta College reserves the right to modify graduation requirements.

Skilled Trades (Apprenticeship) - Pattern Maker - Advanced Certificate

Program Code: CTA.35906

The following advanced certificate is representative of typical Trade Related Instruction for Pattern Maker. Employers are not restricted to this program and may elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction should call the Skilled Trades Program Manager at 989-686-9476. Upon successful completion of all courses listed below, apprentices may apply for the advanced certificate with the Registrar's Office. Prior academic course work or journeyperson card may be acceptable.

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders. These programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or (989) 686-9594.

Since many company apprenticeships programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journeyperson's card.

Core Courses

Course	Credits	Course Title	Completed
SKCN 162	4	Computer Numerical Control Theory	
SKCN 216	4	CNC with Machining Applications	
SKDR 101	3	Blueprint Reading	
SKDR 111	3	Drawing II	
SKDR 121	3	Descriptive Geometry	
SKDR 133	4	Fundamentals of Tooling Design	
SKMA 103	4	Mathematics III	
SKMT 111	3	Metals	
SKMT 231	3	Fundamentals of Foundry Technology	
SKPH 101	4	Applied Physics	
SKTR 181W	4	Machine Tools I	
SKTR 182	4	Machine Tools II	
SKTR 183	3	Machinery Handbook	

46 TOTAL CREDITS

1. File an application with the Registrar's Office to obtain the advanced certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Skilled Trades Pattern Maker**

Skilled Trades Pattern Maker

Total Program Cost (In District):	$6,213.40
On-Time Completion Rate:	NA
Program Job Placement Rate:	NA
Median Loan Dept:	NA

Skilled Trades (Apprenticeship) - Pattern Maker - Associate in Applied Science

Program Code: AAS.60906

As an apprentice, you may apply your related training towards an Associate in Applied Science Degree. In addition to the degree requirements listed below, the following requirements must also be met: 1) Successful completion of all courses listed in a specific related training program (32-40 credits); 2) Successful completion of appropriate supportive study elective courses. Supportive electives are courses taken to fit your individual needs. Prior academic course work may be acceptable. Assistance in selecting electives is available from a Delta College counselor familiar with technical career programs; 3) A journeyman card or equivalent trade experience.

APPRENTICESHIP TRADE RELATED INSTRUCTION PROGRAMS

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders in the industrial trades, building trades, and maintenance trades from the tri-county and surrounding areas. Trade Related Instruction Programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or 686-9594.

Since many company apprenticeship programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journeyman's card only a completion certificate.

The following program is representative of the typical Trade Related Instruction Programs Delta College offers in conjunction with area employers. Employers, however, are not restricted to just these programs and many elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction Programs should call the Skilled Trades Program Manager at (989) 686-9594 or 686-9476.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course **AND**	
ENG ---	3	Any Approved College Composition II Course	
		OR	
ENG ---	(3)	Any Approved College Composition I Course **AND**	
ENG 113	(3)	Technical Communication	
		OR	
OAT 151	(3)	Business Communication I **AND**	
OAT 152	(3)	Business Communication II	
LW 220W	1	Lifelong Wellness **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW 223W	(2)	Wellness in Technical Trades	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
POL ---	3/4	Any Approved American Government Requirement	
	11/12	**SUBTOTAL**	

Suggested Electives

Course	Credits	Course Title	Completed
		Economics Courses (ECN)	
		General Management Courses (MGT)	
		Manufacturing and Industrial Technology Courses (MIT)	
		Mechanical Technology Courses (MT)	
		Psychology Courses (PSY)	
	5/6	**SUBTOTAL**	

Core Courses

Course	Credits	Course Title	Completed
SKCN 162	4	Computer Numerical Control Theory	
SKCN 216	4	CNC with Machining Applications	
SKDR 101	3	Blueprint Reading	
SKDR 111	3	Drawing II	
SKDR 121	3	Descriptive Geometry	
SKDR 133	4	Fundamentals of Tooling Design	
SKMA 103	4	Applied Geometry and Trigonometry	
SKMT 111	3	Metals	
SKMT 231	3	Fundamentals of Foundry Technology	
SKPH 101	4	Applied Physics	
SKTR 181W	4	Machine Tools I	
SKTR 182	4	Machine Tools II	
SKTR 183	3	Machinery's Handbook	
	46	**SUBTOTAL**	
	62/64	**TOTAL CREDITS**	

1. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
2. Delta College reserves the right to modify graduation requirements.

Skilled Trades (Apprenticeship) - Pipefitter (Industrial Maintenance) - Advanced Certificate

Program Code: CTA.35907

The following advanced certificate is representative of typical Trade Related Instruction for Pipefitter (Industrial Maintenance). Employers are not restricted to this program and may elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction should call the Skilled Trades Program Manager at 989-686-9476. Upon successful completion of all courses listed below, apprentices may apply for the advanced certificate with the Registrar's Office. Prior academic course work or journeyperson card may be acceptable.

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders. These programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or (989) 686-9594.

Since many company apprenticeships programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journeyperson's card.

Core Courses

Course	Credits	Course Title	Completed
SKDR 101	3	Blueprint Reading	_____
SKDR 141	3	Pipe and Tube Isometrics	_____
SKMA 103	4	Applied Geometry and Trigonometry	_____
SKMT 220	3	Hydraulics and Pneumatics I	_____
SKMT 222	3	Hydraulics and Pneumatics II	_____
SKPH 101	4	Applied Physics	_____
SKPT 101	4	Industrial Piping	_____
SKPT 106	3	Pipefitters Handbook	_____
SKPT 121	3	Fundamentals of Refrigeration & A/C	_____
SKWL 103	3	Introduction to Plasma, Carbon Arc, and Fuel Gas Cutting	_____

33 TOTAL CREDITS

1. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
2. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Skilled Trades Pipefitter**

Skilled Trades Pipefitter

Total Program Cost (In District):	$4,919.20
On-Time Completion Rate:	NA
Program Job Placement Rate:	NA
Median Loan Dept:	NA

Skilled Trades (Apprenticeship) - Pipefitter (Industrial Maintenance) - Associate in Applied Science

Program Code: AAS.60907

As an apprentice, you may apply your related training towards an Associate in Applied Science Degree. In addition to the degree requirements listed below, the following requirements must also be met: 1) Successful completion of all courses listed in a specific related training program (32-40 credits); 2) Successful completion of appropriate supportive study elective courses. Supportive electives are courses taken to fit your individual needs. Prior academic course work may be acceptable. Assistance in selecting electives is available from a Delta College counselor familiar with technical career programs; 3) A journeyman card or equivalent trade experience.

APPRENTICESHIP TRADE RELATED INSTRUCTION PROGRAMS

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders in the industrial trades, building trades, and maintenance trades from the tri-county and surrounding areas. Trade Related Instruction Programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or 686-9594.

Since many company apprenticeship programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journeyman's card only a completion certificate.

The following program is representative of the typical Trade Related Instruction Programs Delta College offers in conjunction with area employers. Employers, however, are not restricted to just these programs and many elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction Programs should call the Skilled Trades Program Manager at (989) 686-9594 or 686-9476.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course **AND**	
ENG ---	3	Any Approved College Composition II Course	
		OR	
ENG ---	(3)	Any Approved College Composition I Course **AND**	
ENG 113	(3)	Technical Communication	
		OR	
OAT 151	(3)	Business Communication I **AND**	
OAT 152	(3)	Business Communication II	
LW 220W	1	Lifelong Wellness **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
		OR	
LW 223W	(2)	Wellness in Technical Trades	
POL ---	3/4	Any Approved American Government Requirement	
	11/12	**SUBTOTAL**	

Suggested Electives

Course	Credits	Course Title	Completed
		Economics Courses (ECN)	
		General Management Courses (MGT)	
		Manufacturing and Industrial Technology Courses (MIT)	
		Mechanical Technology Courses (MT)	
		Psychology Courses (PSY)	
	17/18	**SUBTOTAL**	

Core Courses

Course	Credits	Course Title	Completed
SKDR 101	3	Blueprint Reading	
SKDR 141	3	Pipe and Tube Isometrics	
SKMA 103	4	Mathematics III	
SKMT 220	3	Hydraulics and Pneumatics I	
SKMT 222	3	Hydraulics and Pneumatics II	
SKPH 101	4	Applied Physics	
SKPT 101	4	Industrial Piping	
SKPT 106	3	Pipefitters Handbook	
SKPT 121	3	Fundamentals of Refrigeration & A/C	
SKWL 103	3	Introduction to Plasma, Carbon Arc, and Fuel Gas Cutting	
	33	**SUBTOTAL**	
	62	**TOTAL CREDITS**	

1. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
2. Delta College reserves the right to modify graduation requirements.

Skilled Trades (Apprenticeship) - Plumber-Pipefitter - Advanced Certificate

Program Code: CTA.35908

The following advanced certificate is representative of typical Trade Related Instruction for Plumber/Pipefitter. Employers are not restricted to this program and may elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction should call the Skilled Trades Program Manager at 989-686-9476. Upon successful completion of all courses listed below, apprentices may apply for the advanced certificate with the Registrar's Office. Prior academic course work or journeyperson card may be acceptable.

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders. These programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or (989) 686-9594.

Since many company apprenticeships programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journeyperson's card.

Core Courses

Course	Credits	Course Title	Completed
SKDR 101	3	Blueprint Reading	
SKDR 141	3	Pipe and Tube Isometrics	
SKMA 103	4	Applied Geometry and Trigonometry	
SKMT 220	3	Hydraulics and Pneumatics I	
SKMT 222	3	Hydraulics and Pneumatics II	
SKMT 171	3	Sheetmetal Layout I	
SKPH 101	4	Applied Physics	
SKPT 101	4	Industrial Piping	
SKPT 106	3	Pipefitters Handbook	
SKPT 121	3	Fundamentals of Refrigeration & A/C	
SKWL 103	3	Introduction to Plasma, Carbon Arc, and Fuel Gas Cutting	
SKWL 104	3	Introduction to Shielded Metal Arc Welding	

39 TOTAL CREDITS

1. File an application with the Registrar's Office to obtain the advanced certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Skilled Trades Plumber-Pipefitter**

Skilled Trades Plumber-Pipefitter

Total Program Cost (In District):	$5,782.00
On-Time Completion Rate:	NA
Program Job Placement Rate:	NA
Median Loan Dept:	NA

Skilled Trades (Apprenticeship) - Plumber-Pipefitter - Associate in Applied Science

Program Code: AAS.60908

As an apprentice, you may apply your related training towards an Associate in Applied Science Degree. In addition to the degree requirements listed below, the following requirements must also be met: 1) Successful completion of all courses listed in a specific related training program (32-40 credits); 2) Successful completion of appropriate supportive study elective courses. Supportive electives are courses taken to fit your individual needs. Prior academic course work may be acceptable. Assistance in selecting electives is available from a Delta College counselor familiar with technical career programs; 3) A journeyman card or equivalent trade experience.

APPRENTICESHIP TRADE RELATED INSTRUCTION PROGRAMS

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders in the industrial trades, building trades, and maintenance trades from the tri-county and surrounding areas. Trade Related Instruction Programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or 686-9594.

Since many company apprenticeship programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journeyman's card only a completion certificate.

The following program is representative of the typical Trade Related Instruction Programs Delta College offers in conjunction with area employers. Employers, however, are not restricted to just these programs and many elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction Programs should call the Skilled Trades Program Manager at (989) 686-9594 or 686-9476.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course **AND**	
ENG ---	3	Any Approved College Composition II Course	
		OR	
ENG ---	(3)	Any Approved College Composition I Course **AND**	
ENG 113	(3)	Technical Communication	
		OR	
OAT 151	(3)	Business Communication I **AND**	
OAT 152	(3)	Business Communication II	
LW 220W	1	Lifelong Wellness **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
		OR	
LW 223W	(2)	Wellness in Technical Trades	
POL ---	3/4	Any Approved American Government Requirement	
	11/12	**SUBTOTAL**	

Suggested Electives

Course	Credits	Course Title	Completed
		Economics Courses (ECN)	
		General Management Courses (MGT)	
		Manufacturing and Industrial Technology Courses (MIT)	
		Mechanical Technology Courses (MT)	
		Psychology Courses (PSY)	
	11/12	**SUBTOTAL**	

Core Courses

Course	Credits	Course Title	Completed
SKDR 101	3	Blueprint Reading	
SKDR 141	3	Pipe and Tube Isometrics	
SKMA 103	4	Mathematics III	
SKMT 220	3	Hydraulics and Pneumatics I	
SKMT 222	3	Hydraulics and Pneumatics II	
SKMT 171	3	Sheetmetal Layout I	
SKPH 101	4	Applied Physics	
SKPT 101	4	Industrial Piping	
SKPT 106	3	Pipefitters Handbook	
SKPT 121	3	Fundamentals of Refrigeration & A/C	
SKWL 103	3	Introduction to Plasma, Carbon Arc, and Fuel Gas Cutting	
SKWL 104	3	Introduction to Shielded Metal Arc Welding	
	39	**SUBTOTAL**	
	62	**TOTAL CREDITS**	

1. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
2. Delta College reserves the right to modify graduation requirements.

Skilled Trades (Apprenticeship) - Stationary Boiler Engineering - Advanced Certificate

Program Code: CTA.35909

The following advanced certificate is representative of typical Trade Related Instruction for Stationary Boiler Engineering. Employers are not restricted to this program and may elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction should call the Skilled Trades Program Manager at 989-686-9476. Upon successful completion of all courses listed below, apprentices may apply for the advanced certificate with the Registrar's Office. Prior academic course work or journeyperson card may be acceptable.

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders. These programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or (989) 686-9594.

Since many company apprenticeships programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journeyperson's card.

Core Courses

Course	Credits	Course Title	Completed
SKDR 101	3	Blueprint Reading	
SKDR 141	3	Pipe and Tube Isometrics	
SKMA 103	4	Applied Geometry and Trigonometry	
SKMT 220	3	Hydraulics and Pneumatics I	
SKMT 222	3	Hydraulics and Pneumatics II	
SKMT 161	2	Industrial Rigging and Safety	
SKPT 106	3	Pipefitters Handbook	
SKPT 111	2	Stationary Boiler Engineering I	
SKPT 112	2	Stationary Boiler Engineering II	
SKPT 113	2	Stationary Boiler Engineering III	
SKPT 114	3	Stationary Boiler Engineering IV	
SKPT 121	3	Fundamentals of Refrigeration & A/C	
SKWL 103	3	Introduction to Plasma, Carbon Arc, and Fuel Gas Cutting	
SKWL 104	3	Introduction to Shielded Metal Arc Welding	

39 TOTAL CREDITS

1. File an application with the Registrar's Office to obtain the advanced certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Skilled Trades Stationary Boiler Engineer**

Skilled Trades Stationary Boiler Engineer

Total Program Cost (In District):	$5,782.00
On-Time Completion Rate:	NA
Program Job Placement Rate:	NA
Median Loan Dept:	NA

Skilled Trades (Apprenticeship) - Stationary Boiler Engineering - Associate in Applied Science

Program Code: AAS.60909

As an apprentice, you may apply your related training towards an Associate in Applied Science Degree. In addition to the degree requirements listed below, the following requirements must also be met: 1) Successful completion of all courses listed in a specific related training program (32-40 credits); 2) Successful completion of appropriate supportive study elective courses. Supportive electives are courses taken to fit your individual needs. Prior academic course work may be acceptable. Assistance in selecting electives is available from a Delta College counselor familiar with technical career programs; 3) A journeyman card or equivalent trade experience.

APPRENTICESHIP TRADE RELATED INSTRUCTION PROGRAMS

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders in the industrial trades, building trades, and maintenance trades from the tri-county and surrounding areas. Trade Related Instruction Programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or 686-9594.

Since many company apprenticeship programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journeyman's card only a completion certificate.

The following program is representative of the typical Trade Related Instruction Programs Delta College offers in conjunction with area employers. Employers, however, are not restricted to just these programs and many elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction Programs should call the Skilled Trades Program Manager at (989) 686-9594 or 686-9476.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course **AND**	
ENG ---	3	Any Approved College Composition II Course	
		OR	
ENG ---	(3)	Any Approved College Composition I Course **AND**	
ENG 113	(3)	Technical Communication	
		OR	
OAT 151	(3)	Business Communication I **AND**	
OAT 152	(3)	Business Communication II	
LW 220W	1	Lifelong Wellness **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
		OR	
LW 223W	2	Wellness in Technical Trades	
POL ---	3/4	Any Approved American Government Requirement	
	11/12	**SUBTOTAL**	

Suggested Electives

Course	Credits	Course Title	Completed
		Economics Courses (ECN)	
		General Management Courses (MGT)	
		Manufacturing and Industrial Technology Courses (MIT)	
		Mechanical Technology Courses (MT)	
		Psychology Courses (PSY)	
	11/12	**SUBTOTAL**	

Core Courses

Course	Credits	Course Title	Completed
SKDR 101	3	Blueprint Reading	
SKDR 141	3	Pipe and Tube Isometrics	
SKMA 103	4	Mathematics III	
SKMT 220	3	Hydraulics and Pneumatics I	
SKMT 222	3	Hydraulics and Pneumatics II	
SKMT 161	2	Industrial Rigging and Safety	
SKPT 106	3	Pipefitters Handbook	
SKPT 111	2	Stationary Boiler Engineering I	
SKPT 112	2	Stationary Boiler Engineering II	
SKPT 113	2	Stationary Boiler Engineering III	
SKPT 114	3	Stationary Boiler Engineering IV	
SKPT 121	3	Fundamentals of Refrigeration & A/C	
SKWL 103	3	Introduction to Plasma, Carbon Arc, and Fuel Gas Cutting	
SKWL 104	3	Introduction to Shielded Metal Arc Welding	
	39	**SUBTOTAL**	
	62	**TOTAL CREDITS**	

1. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
2. Delta College reserves the right to modify graduation requirements.

Skilled Trades (Apprenticeship) - Tinsmith - Advanced Certificate

Program Code: CTA.35910

The following advanced certificate is representative of typical Trade Related Instruction for Tinsmith. Employers are not restricted to this program and may elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction should call the Skilled Trades Program Manager at 989-686-9476. Upon successful completion of all courses listed below, apprentices may apply for the advanced certificate with the Registrar's Office. Prior academic course work or journeyperson card may be acceptable.

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders. These programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or (989) 686-9594.

Since many company apprenticeships programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journeyperson's card.

Core Courses

Course	Credits	Course Title	Completed
SKDR 101	3	Blueprint Reading	
SKDR 121	3	Descriptive Geometry	
SKMA 103	4	Applied Geometry and Trigonometry	
SKMT 161	2	Industrial Rigging and Safety	
SKMT 171	3	Sheetmetal Layout I	
SKMT 172	3	Sheetmetal II	
SKMT 173	3	Sheetmetal III	
SKPH 101	4	Applied Physics	
SKPT 126	3	Heating System Fundamentals	
SKWL 103	3	Introduction to Plasma, Carbon Arc, and Fuel Gas Cutting	
SKWL 104	3	Introduction to Shielded Metal Arc Welding	

34 TOTAL CREDITS

1. File an application with the Registrar's Office to obtain the advanced certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Skilled Trades Tinsmith**

Skilled Trades Tinsmith

Total Program Cost (In District):	$5,063.00
On-Time Completion Rate:	NA
Program Job Placement Rate:	NA
Median Loan Dept:	NA

Skilled Trades (Apprenticeship) - Tinsmith - Associate in Applied Science

Program Code: AAS.60910

As an apprentice, you may apply your related training towards an Associate in Applied Science Degree. In addition to the degree requirements listed below, the following requirements must also be met: 1) Successful completion of all courses listed in a specific related training program (32-40 credits); 2) Successful completion of appropriate supportive study elective courses. Supportive electives are courses taken to fit your individual needs. Prior academic course work may be acceptable. Assistance in selecting electives is available from a Delta College counselor familiar with technical career programs; 3) A journeyman card or equivalent trade experience.

APPRENTICESHIP TRADE RELATED INSTRUCTION PROGRAMS

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders in the industrial trades, building trades, and maintenance trades from the tri-county and surrounding areas. Trade Related Instruction Programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or 686-9594.

Since many company apprenticeship programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journeyman's card only a completion certificate.

The following program is representative of the typical Trade Related Instruction Programs Delta College offers in conjunction with area employers. Employers, however, are not restricted to just these programs and many elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction Programs should call the Skilled Trades Program Manager at (989) 686-9594 or 686-9476.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course **AND**	
ENG ---	3	Any Approved College Composition II Course	
		OR	
ENG ---	(3)	Any Approved College Composition I Course **AND**	
ENG 113	(3)	Technical Communication	
		OR	
OAT 151	(3)	Business Communication I **AND**	
OAT 152	(3)	Business Communication II	
LW 220W	1	Lifelong Wellness **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
		OR	
LW 223W	(2)	Wellness in Technical Trades	
POL ---	3/4	Any Approved American Government Requirement	
	11/12	**SUBTOTAL**	

Suggested Supportive Electives

Course	Credits	Course Title	Completed
		Economics Courses (ECN)	
		General Management Courses (MGT)	
		Manufacturing and Industrial Technology Courses (MIT)	
		Mechanical Technology Courses (MT)	
		Psychology Courses (PSY)	
	16/17	**SUBTOTAL**	

Core Courses

Course	Credits	Course Title	Completed
SKDR 101	3	Blueprint Reading	
SKDR 121	3	Descriptive Geometry	
SKMA 103	4	Mathematics III	
SKMT 161	2	Industrial Rigging and Safety	
SKMT 171	3	Sheetmetal Layout I	
SKMT 172	3	Sheetmetal II	
SKMT 173	3	Sheetmetal III	
SKPH 101	4	Applied Physics	
SKPT 126	3	Heating System Fundamentals	
SKWL 103	3	Introduction to Plasma, Carbon Arc, and Fuel Gas Cutting	
SKWL 104	3	Introduction to Shielded Metal Arc Welding	
	34	**SUBTOTAL**	
	62	**TOTAL CREDITS**	

1. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
2. Delta College reserves the right to modify graduation requirements.

Skilled Trades (Apprenticeship) - Tool-Die Maker - Advanced Certificate

Program Code: CTA.35911

The following advanced certificate is representative of typical Trade Related Instruction for Tool/Die Maker. Employers are not restricted to this program and may elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction should call the Skilled Trades Program Manager at 989-686-9476. Upon successful completion of all courses listed below, apprentices may apply for the advanced certificate with the Registrar's Office. Prior academic course work or journeyperson card may be acceptable.

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders. These programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or (989) 686-9594.

Since many company apprenticeships programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journeyperson's card.

Core Courses

Course	Credits	Course Title	Completed
SKCN 162	4	Computer Numerical Control Theory	
SKCN 216	4	CNC with Machining Applications	
SKDR 101	3	Blueprint Reading	
SKDR 111	3	Drawing II	
SKDR 133	4	Fundamentals of Tooling Design	
SKMA 103	4	Applied Geometry and Trigonometry	
SKMT 220	3	Hydraulics and Pneumatics I	
SKMT 111	3	Metals	
SKPH 101	4	Applied Physics	
SKTR 181W	4	Machine Tools I	
SKTR 182	4	Machine Tools II	
SKTR 183	3	Machinery's Handbook	
	43	**TOTAL CREDITS**	

1. File an application with the Registrar's Office to obtain the advanced certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Skilled Trades Tool/Die Maker**

Skilled Trades Tool/Die Maker

Total Program Cost (In District):	$5,925.80
On-Time Completion Rate:	NA
Program Job Placement Rate:	NA
Median Loan Dept:	NA

Skilled Trades (Apprenticeship) - Tool-Die Maker - Associate in Applied Science

Program Code: AAS.60911

As an apprentice, you may apply your related training towards an Associate in Applied Science Degree. In addition to the degree requirements listed below, the following requirements must also be met: 1) Successful completion of all courses listed in a specific related training program (32-40 credits); 2) Successful completion of appropriate supportive study elective courses. Supportive electives are courses taken to fit your individual needs. Prior academic course work may be acceptable. Assistance in selecting electives is available from a Delta College counselor familiar with technical career programs; 3) A journeyman card or equivalent trade experience.

APPRENTICESHIP TRADE RELATED INSTRUCTION PROGRAMS

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders in the industrial trades, building trades, and maintenance trades from the tri-county and surrounding areas. Trade Related Instruction Programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or 686-9594.

Since many company apprenticeship programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journeyman's card only a completion certificate.

The following program is representative of typical Trade Related Instruction Programs Delta College offers in conjunction with area employers. Employers, however, are not restricted to just these programs and many elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction Programs should call the Skilled Trades Program Manager at (989) 686-9594 or 686-9476.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course **AND**	
ENG ---	3	Any Approved College Composition II Course	
		OR	
ENG ---	(3)	Any Approved College Composition I Course **AND**	
ENG 113	(3)	Technical Communication	
		OR	
OAT 151	(3)	Business Communication I **AND**	
OAT 152	(3)	Business Communication II	
LW 220W	1	Lifelong Wellness **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW 223W	(2)	Wellness in Technical Trades	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
POL ---	3/4	Any Approved American Government Requirement	
	11/12	**SUBTOTAL**	

Suggested Electives

Course	Credits	Course Title	Completed
		Economics Courses (ECN)	
		General Management Courses (MGT)	
		Manufacturing and Industrial Technology Courses (MIT)	
		Mechanical Technology Courses (MT)	
		Psychology Courses (PSY)	
	7/8	**SUBTOTAL**	

Core Courses

Course	Credits	Course Title	Completed
SKCN 162	4	Computer Numerical Control Theory	
SKCN 216	4	CNC with Machining Applications	
SKDR 101	3	Blueprint Reading	
SKDR 111	3	Drawing II	
SKDR 133	4	Fundamentals of Tooling Design	
SKMA 103	4	Applied Geometry and Trigonometry	
SKMT 220	3	Hydraulics and Pneumatics I	
SKMT 111	3	Metals	
SKPH 101	4	Applied Physics	
SKTR 181W	4	Machine Tools I	
SKTR 182	4	Machine Tools II	
SKTR 183	3	Machinery Handbook	
	43	**SUBTOTAL**	
	62	**TOTAL CREDITS**	

1. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
2. Delta College reserves the right to modify graduation requirements.

Skilled Trades (Apprenticeship) - Tool Hardener - Advanced Certificate

Program Code: CTA.35912

The following advanced certificate is representative of typical Trade Related Instruction for Tool Hardener. Employers are not restricted to this program and may elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction should call the Skilled Trades Program Manager at 989-686-9476. Upon successful completion of all courses listed below, apprentices may apply for the advanced certificate with the Registrar's Office. Prior academic course work or journeyperson card may be acceptable.

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders. These programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or (989) 686-9594.

Since many company apprenticeships programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journeyperson's card.

Core Courses

Course	Credits	Course Title	Completed
SKDR 101	3	Blueprint Reading	
SKDR 111	3	Drawing II	
SKDR 133	4	Fundamentals of Tooling Design	
SKMA 103	4	Applied Geometry and Trigonometry	
SKMT 111	3	Metals	
SKMT 112	2	Ferrous Heat Treatment	
SKPH 101	4	Applied Physics	
SKTR 181W	4	Machine Tools I	
SKTR 182	4	Machine Tools II	
SKWL 103	3	Introduction to Plasma, Carbon Arc, and Fuel Gas Cutting	
SKWL 104	3	Introduction to Shielded Metal Arc Welding	
	37	**TOTAL CREDITS**	

1. File an application with the Registrar's Office to obtain the advanced certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Skilled Trades Tool Hardener**

Skilled Trades Tool Hardener

Total Program Cost (In District):	$5,063.00
On-Time Completion Rate:	NA
Program Job Placement Rate:	NA
Median Loan Dept:	NA

Skilled Trades (Apprenticeship) - Tool Hardener - Associate in Applied Science

Program Code: AAS.60912

As an apprentice, you may apply your related training towards an Associate in Applied Science Degree. In addition to the degree requirements listed below, the following requirements must also be met: 1) Successful completion of all courses listed in a specific related training program (32-40 credits); 2) Successful completion of appropriate supportive study elective courses. Supportive electives are courses taken to fit your individual needs. Prior academic course work may be acceptable. Assistance in selecting electives is available from a Delta College counselor familiar with technical career programs; 3) A journeyman card or equivalent trade experience.

APPRENTICESHIP TRADE RELATED INSTRUCTION PROGRAMS

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders in the industrial trades, building trades, and maintenance trades from the tri-county and surrounding areas. Trade Related Instruction Programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or 686-9594.

Since many company apprenticeship programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journeyman's card only a completion certificate.

The following program is representative of the typical Trade Related Instruction Programs Delta College offers in conjunction with area employers. Employers, however, are not restricted to just these programs and many elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction Programs should call the Skilled Trades Program Manager at (989) 686-9594 or 686-9476.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course **AND**	
ENG ---	3	Any Approved College Composition II Course	
		OR	
ENG ---	(3)	Any Approved College Composition I Course **AND**	
ENG 113	(3)	Technical Communication	
		OR	
OAT 151	(3)	Business Communication I **AND**	
OAT 152	(3)	Business Communication II	
LW 220W	1	Lifelong Wellness **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW 223W	(2)	Wellness in Technical Trades	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
POL ---	3/4	Any Approved American Government Requirement	
	11/12	**SUBTOTAL**	

Suggested Electives

Course	Credits	Course Title	Completed
		Economics Courses (ECN)	
		General Management Courses (MGT)	
		Manufacturing and Industrial Technology Courses (MIT)	
		Mechanical Technology Courses (MT)	
		Psychology Courses (PSY)	
	13/14	**SUBTOTAL**	

Core Courses

Course	Credits	Course Title	Completed
SKDR 101	3	Blueprint Reading	
SKDR 111	3	Drawing II	
SKDR 133	4	Fundamentals of Tooling Design	
SKMA 103	4	Applied Geometry and Trigonometry	
SKMT 111	3	Metals	
SKMT 112	2	Ferrous Heat Treatment	
SKPH 101	4	Applied Physics	
SKTR 181W	4	Machine Tools I	
SKTR 182	4	Machine Tools II	
SKWL 103	3	Introduction to Plasma, Carbon Arc, and Fuel Gas Cutting	
SKWL 104	3	Introduction to Shielded Metal Arc Welding	
	37	**SUBTOTAL**	
	62	**TOTAL CREDITS**	

1. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
2. Delta College reserves the right to modify graduation requirements.

Pre-Apprentice Skilled Trades Agricultural Maintenance - Advanced Certificate

Program Code: CTA.35895

Delivers core skill sets to students to enter into an apprenticeship or take entry level apprenticeship test. Demonstrates to potential employer that student has shown knowledge, interest, and skills to apply for a position as a tradesman.

Core Courses

Course	Credits	Course Title	Completed
AUT 108	3	Introductory Automotive Electronics	
AUT 110	4	Automotive Electronics Service	
SKDR 101	3	Blueprint Reading	
SKET 106	3	Applied Electricity I	
SKMT 101	3	Hydraulics and Pneumatics I	
SKMT 102	3	Hydraulics and Pneumatics II	
SKMT 151	3	Power Transmission	
SKWL 103	3	Introduction to Plasma, Carbon Arc, and Fuel Gas Cutting	
SKWL 104	3	Introduction to Shielded Metal Arc Welding	

28 TOTAL CREDITS

1. CERTIFICATE REQUIREMENTS: In addition to the core courses a math competency of MATH LEVEL 3 is required for this certificate and may be achieved by testing into MATH LEVEL 3 on the Assessment Test or successful completion of SKMA 096. A reading competency of READING LEVEL 2 or higher is required for this certificate and may be achieved by testing into READING LEVEL 2 or higher on the Assessment Test or successful completion of ENG 093 or any higher level ENG course. ENG 093 and SKMA 096 credits are not applied towards the total credits required for this certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Agriculture Maintenance Adv Cert**

Agriculture Maintenance Adv Cert

Total Program Cost (In District):	$4,775.40
On-Time Completion Rate:	NA
Program Job Placement Rate:	NA
Median Loan Dept:	NA

Pre-apprentice Skilled Trades Construction - Certificate of Achievement

Program Code: CTZ.35896

Delivers core skill sets to students to enter into an apprenticeship or take entry level apprenticeship test. Demonstrates to potential employer that student has shown knowledge, interest, and skills to apply for a position as a tradesman.

Core Courses

Course	Credits	Course Title	Completed
RC 104	3	Construction Lab	
SKCT 102	3	Building Materials	
SKCT 111	3	Construction Print Interpretation	
SKCT 114	4	Framing Square	
SKWL 103	3	Introduction to Plasma, Carbon Arc, and Fuel Gas Cutting	

16 TOTAL CREDITS

1. CERTIFICATE REQUIREMENTS: In addition to the core courses a math competency of MATH LEVEL 3is required for this certificate and may be achieved by testing into MATH LEVEL 3 on the Assessment Test or successful completion of SKMA 096. A reading competency of READING LEVEL 2 or higher is required for this certificate and may be achieved by testing into READING LEVEL 2 or higher on the Assessment Test or successful completion of ENG 093 or any higher level ENG course. ENG 093 and SKMA 096 credits are not applied towards the total credits required for this certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Pre-apprentice Skilled Trades Electrical - Advanced Certificate

Program Code: CTA.35894

Delivers core skill sets to students to enter into an apprenticeship or take entry level apprenticeship test. Demonstrates to potential employer that student has shown knowledge, interest, and skills to apply for a position as a tradesman.

Core Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course	_____
SKEL 101	6	Basic Electronics	_____
SKEL 111	3	Conventional Controls	_____
SKMA 111	6	Applied Integrated Electrical Math I	_____
SKMA 112	3	Applied Integrated Electrical Mathematics II	_____
SKMA 113	3	Applied Integrated Electrical Math III	_____

24 TOTAL CREDITS

1. CERTIFICATE REQUIREMENTS: In addition to the core courses a reading competency of READING LEVEL 2 or higher is required for this certificate and may be achieved by testing into READING LEVEL 2 or higher on the Assessment Test or successful completion of ENG 093 or any higher level ENG course. ENG 093 credits are not applied towards the total credits required for this certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Pre-Apprentice Sk Tr Electrical Adv Cert**

Pre-Apprentice Sk Tr Electrical Adv Cert

Total Program Cost (In District):	$3,337.40
On-Time Completion Rate:	73.90%
Program Job Placement Rate:	0.00%
Median Loan Dept:	$0.00

Pre-apprentice Skilled Trades Mechanical - Advanced Certificate

Program Code: CTA.35893

Delivers core skill sets to students to enter into an apprenticeship or take entry level apprenticeship test. Demonstrates to potential employer that student has shown knowledge, interest, and skills to apply for a position as a tradesman.

Core Courses

Course	Credits	Course Title	Completed
SKCN 162	4	Computer Numerical Control Theory	
SKDR 101	3	Blueprint Reading	
SKDR 111	3	Drawing II	
SKMT 101	3	Hydraulics and Pneumatics I	
SKMT 111	3	Metals	
SKTR 181W	4	Machine Tools I	
SKWL 103	3	Introduction to Plasma, Carbon Arc, and Fuel Gas Cutting	

23 TOTAL CREDITS

1. CERTIFICATE REQUIREMENTS: In addition to the core courses a math competency of MATH LEVEL 4 is required for this certificate and may be achieved by testing into MATH LEVEL 4 on the Assessment Test or successful completion of SKMA 096 and/or SKMA 097. A reading competency of READING LEVEL 2 or higher is required for this certificate and may be achieved by testing into READING LEVEL 2 or higher on the Assessment Test or successful completion of ENG 093 or any higher level ENG course. ENG 093, SKMA 096 and SKMA 097 credits are not applied towards the total credits required for this certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Pre-Apprentice Sk Tr Mechanical Adv Cert**

Pre-Apprentice Sk Tr Mechanical Adv Cert

Total Program Cost (In District):	$3,768.80
On-Time Completion Rate:	NA
Program Job Placement Rate:	NA
Median Loan Dept:	NA

Surgical Technology - Advanced Certificate

Program Code: CHA.35547

The Surgical Technologist's primary function is to provide a safe, therapeutically effective environment for the surgical patient by assisting the surgeon and performing related services in the operating room. This program is accredited by CAAHEP and graduates will be eligible to sit for the National Certifying Exam.

General Education Courses

Course	Credits	Course Title	Completed
BIO 152W	4	Human Anatomy & Physiology I **AND**	
BIO 153W	4	Human Anatomy & Physiology II	
		OR	
BIO 240	(4)	Human Anatomy **AND**	
BIO 241	(4)	Physiology	
BIO 203W	4	General Microbiology	
ENG ---	3	Any Approved College Composition I Course	
HSC 105	2	Medical Terminology	
HSC 140	2	Basic Medical Emergencies	
PSY 101W	3	Applied Psychology	
		OR	
PSY 211W	(4)	General Psychology	
		OR	
SOC 211	(3)	Principles of Sociology	
ST 100	3	Introduction to Health Care Service	
	25/26	**SUBTOTAL**	

Clinical Courses

First Semester

Course	Credits	Course Title	Completed
ST 207	2	Pharmacology in the Operating Room	
ST 210	2	The Surgical Patient	
ST 220	6	Fundamentals of Surgical Technology	
ST 230	4	Surgical Anatomy	
ST 240	4	Operative Procedures	
	18	**SUBTOTAL**	

Second Semester (Winter)

Course	Credits	Course Title	Completed
ST 250	12	Clinical Externship	
ST 251W	3	Operating Room Seminar	
	15	**SUBTOTAL**	
	58/59	**TOTAL CREDITS**	

1. A grade of "C" (2.0) or higher is required for all courses for the certificate.
2. BIO 152W and BIO 153W (or BIO 240 and BIO 241) are key courses and must be completed within 10 years of completing certificate or degree. Failure to complete within the stated timeframe will require you to repeat these courses.
3. Prior to attempting to register to begin the clinical sequence, you must complete the courses BIO 152W and BIO 153W or BIO 240 and BIO 241, BIO 203W, ENG --- Comp I, HSC 105, HSC 140, PSY 101W or PSY 211W or SOC 211, and ST 100 and the "Validation Application".
4. BIO 152W and BIO 153W are key courses and must be completed within 10 years of completing the degree. Failure to complete within the stated time frame will require you to complete an approved Biology course(s). See graduation requirements in catalog.
5. As an applicant, you must be a high school graduate or submit a GED equivalency certificate.
6. Validation requirements: (a) LEVEL 4 READING competency; (b) LEVEL 5 MATH Competency. Math courses are to have been taken within the last five years. (c) Successful completion of each of the prerequisite courses (listed in note #2 above).
7. Application: See Validation Procedures in this catalog for the required process.
8. PRIOR to beginning clinical, you MUST have CPR certification, which includes the Two-Person Rescuer Technique. CPR certification must be renewed per program and health care agency's requirements.

9. Upon acceptance, a negative TB skin test and current physical examination must confirm that you cannot transmit or are free from communicable diseases and are capable of performing the duties necessary for safe patient care. Hepatitis B immunization or signed waiver is needed prior to clinical rotations.
10. You must achieve a minimum "C" (2.0) grade in each clinical course to be eligible to continue in this program. These courses must be taken in the sequence shown and enrollment in these courses is by permission only.
11. When in the clinical phase of the program, you must have transportation available, as sites may not be in your community.
12. There will be additional expenses for uniforms that will be explained during Orientation.
13. You are responsible for paying the cost of any medical care that might be necessary if you are injured or become ill as a result of clinical practice activities. The College does not provide insurance coverage for such situations.
14. Student reentry procedures are printed in the Student Handbook given to all clinical students.
15. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
16. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Surgical Technology Adv Cert**

Surgical Technology Adv Cert

Total Program Cost (In District):	$8,370.40
On-Time Completion Rate:	NA
Program Job Placement Rate:	NA
Median Loan Dept:	NA

Surgical Technology - Associate in Applied Science

Program Code: AAS.20549

The Surgical Technologist's primary function is to provide a safe, therapeutically effective environment for the surgical patient by assisting the surgeon and performing related services in the operating room. This program is accredited by CAAHEP and graduates will be eligible to sit for the National Certifying Exam.

General Education Courses

Course	Credits	Course Title	Completed
BIO 152W	4	Human Anatomy & Physiology I **AND**	
BIO 153W	4	Human Anatomy & Physiology II	
		OR	
BIO 240	(4)	Human Anatomy **AND**	
BIO 241	(4)	Physiology	
BIO 203W	4	General Microbiology	
ENG ---	3	Any Approved College Composition I Course	
ENG ---	3	Any Approved College Composition II Course	
HSC 105	2	Medical Terminology	
HSC 140	2	Basic Medical Emergencies	
LW ---	1	Any 1 Credit LW Course (As of fall 2007) **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
POL ---	3/4	Any Approved American Government Requirement	
PSY 101W	3	Applied Psychology	
		OR	
PSY 211W	(4)	General Psychology	
		OR	
SOC 211	(3)	Principles of Sociology	
ST 100	3	Introduction to Health Care Service	
	33/35	**SUBTOTAL**	

Clinical Courses

First Semester

Course	Credits	Course Title	Completed
ST 207	2	Pharmacology in the Operating Room	
ST 210	2	The Surgical Patient	
ST 220	6	Fundamentals of Surgical Technology	
ST 230	4	Surgical Anatomy	
ST 240	4	Operative Procedures	
	18	**SUBTOTAL**	

Second Semester (Winter)

Course	Credits	Course Title	Completed
ST 250	12	Clinical Externship	
ST 251W	3	Operating Room Seminar	
	15	**SUBTOTAL**	
	66/68	**TOTAL CREDITS**	

1. A grade of "C" (2.0) or higher is required for all courses for the degree.
2. B

IO 152W and BIO 153W (or BIO 240 and BIO 241) are key courses and must be completed within 10 years of completing certificate or degree. Failure to complete within the stated timeframe will require you to repeat these courses.

3. Prior to attempting to register to begin the clinical sequence, you must complete the courses BIO 152W and BIO 153W or BIO 240 and BIO 241, BIO 203W, ENG --- Comp I, HSC 105, HSC 140, PSY 101W or PSY 211W or SOC 211, and ST 100 and the "Validation Application".
4. BIO 152W and BIO 153W are key courses and must be completed within 10 years of completing the degree. Failure to complete within the stated time frame will require you to complete an approved Biology course(s). See graduation requirements in catalog.
5. As an applicant, you must be a high school graduate or submit a GED equivalency certificate.
6. Validation requirements: (a) LEVEL 4 READING competency; (b) LEVEL 5 MATH Competency. Math courses are to have been taken within the last five years. (c) Successful completion of each of the prerequisite courses (listed in note #2 above).
7. Application: See Validation Procedures in this catalog for the required process.
8. PRIOR to beginning clinical, you MUST have CPR certification, which includes the Two-Person Rescuer Technique. CPR certification must be renewed per program and health care agency's requirements.
9. Upon acceptance, a negative TB skin test and current physical examination must confirm that you cannot transmit or are free from communicable diseases and are capable of performing the duties necessary for safe patient care. Hepatitis B immunization or signed waiver is needed prior to clinical rotations.
10. You must achieve a minimum "C" (2.0) grade in each clinical course to be eligible to continue in this program. These courses must be taken in the sequence shown and enrollment in these courses is by permission only.
11. When in the clinical phase of the program, you must have transportation available, as sites may not be in your community.
12. There will be additional expenses for uniforms that will be explained during Orientation.
13. You are responsible for paying the cost of any medical care that might be necessary if you are injured or become ill as a result of clinical practice activities. The College does not provide insurance coverage for such situations.
14. Student reentry procedures are printed in the Student Handbook given to all clinical students.
15. Also see "Dual Degrees."
16. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
17. Delta College reserves the right to modify graduation requirements.

Water Environment Technology - Advanced Certificate

Program Code: CTA.35827

The vast majority of water and wastewater treatment plant operators work for local governments. Some work for private water supply and sanitary services companies, many of which provide operation and management services to local governments on a contract basis.

Graduation from this program will prepare you to make application to write the Wastewater Class "D" Operator Certification examination and the entry-level waterworks certification examinations.

Required Courses

Course	Credits	Course Title	Completed
CHM 105W	5	Technical Chemistry I	
		OR	
CHM 111	(5)	General and Inorganic Chemistry I **AND**	
CHM 112	(5)	General and Inorganic Chemistry II	
CST 133W	4	Computer Concepts & Competencies	
MTH ---	4	Any Approved Intermediate Algebra Course	
WET 110	3	Water Treatment Technologies	
WET 112	3	Wastewater Treatment Technologies	
WET 210	3	Advanced Wastewater Treatment Technologies	
WET 212	3	Advanced Water Treatment Technologies	
WET 215	3	Water Quality Analysis And Wet Instrumentation	
WET 220	3	Water Quality Analysis and Microbiology	
WET 244	3	Water/Wastewater Utility Equipment Maintenance	
WET 265	4	Practicum In Water/Wastewater Treatment	

Math Requirement Alternatives

Course	Credits	Course Title	Completed
ENV 100W	3	Environmental Regulations	
ENV 151W	2.7	HAZWOPER Training	
ENV 153	1.3	Confined Space Training	
GLG 130	4	Environmental Geology	
GLG 230	2	Introductory Field Methods In Hydrogeology	

38/43 TOTAL CREDITS

1. A Grade of "C" (2.0) or higher is required in WET 110, WET 112, WET 210, WET 212, WET 220 and WET 244.
2. This certificate may be met by either CHM 105 alone, or the sequence of CHM 111 and CHM 112.
3. The MTH approved Intermediate Algebra Course requirement can also be met with an acceptable score on the current college assessment instrument. To meet minimum graduation requirements, credits may be replaced from the "Recommended Electives" course list above.
4. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
5. Delta College reserves the right to modify graduation requirements.
6. If you plan to pursue an advanced degree, see pages ADVANVED_DEGREE_PAGES for special transfer agreements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Water Environ Tech Adv Cert**

Water Environ Tech Adv Cert

Total Program Cost (In District):	$4,487.80
On-Time Completion Rate:	NA
Program Job Placement Rate:	NA
Median Loan Dept:	NA

Water Environment Technology - Associate in Applied Science

Program Code: AAS.15827

The vast majority of water and wastewater treatment plant operators work for local governments. Some work for private water supply and sanitary services companies, many of which provide operation and management services to local governments on a contract basis.

Graduation from this program will prepare you to make application to write the Wastewater Class "D" Operator Certification examination and the entry-level waterworks certification examinations.

Core Courses

Course	Credits	Course Title	Completed
WET 110	3	Water Treatment Technologies	
WET 112	3	Wastewater Treatment Technologies	
WET 210	3	Advanced Wastewater Treatment Technologies	
WET 212	3	Advanced Water Treatment Technologies	
WET 215	3	Water Quality Analysis And Wet Instrumentation	
WET 220	3	Water Quality Analysis and Microbiology	
WET 230	3	Water/Wastewater Utility Management	
WET 240	3	Applied Hydraulics	
WET 244	3	Water/Wastewater Utility Equipment Maintenance	
WET 246	2	Water/Wastewater Utility Electrical Maintenance	
WET 265	4	Practicum In Water/Wastewater Treatment	
	33	**SUBTOTAL**	

General Education Courses

Course	Credits	Course Title	Completed
BIO 110W	4	Environmental Science	
CHM 105W	5	Technical Chemistry I **AND**	
CHM 106W	5	Technical Chemistry II	
		OR	
CHM 111	(5)	General and Inorganic Chemistry I **AND**	
CHM 112	(5)	General and Inorganic Chemistry II	
CST 133W	4	Computer Concepts & Competencies	
ENG ---	3	Any Approved College Composition I Course	
ENG 113	3	Technical Communications (Recommended)	
		OR	
ENG ---	(3)	Any Approved College Composition II Course	
MTH ---	4	Any Approved Intermediate Algebra Course	
LW ---	1	Any 1 Credit LW Course (As of fall 2007) **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW ---	(2)	Any 2 Credit LW Course (As of fall 2007)	
POL ---	3/4	Any Approved American Government Requirement	
	33/34	**SUBTOTAL**	

Recommended Electives

Course	Credits	Course Title	Completed
ENV 100W	3	Environmental Regulations	
ENV 151W	2.7	HAZWOPER Training	
ENV 153	1.3	Confined Space Training	
GLG 130	4	Environmental Geology	
GLG 230	2	Introductory Field Methods In Hydrogeology	

66/67 TOTAL CREDITS

1. A Grade of "C" (2.0) or higher is required in all Core Courses
2. A student not wishing to take the Michigan Department of Environment Quality Water and Wastewater Entry-Level Exams may replace WET 265 with one of the recommended electives or an elective approved by the Division Chair or the Program Chair to complete at least 64 credits.
3. The MTH approved Intermediate Algebra Course requirement can also be met with an acceptable score on the current college assessment instrument. To meet minimum graduation requirements, credits may be replaced from the "Recommended Electives" course list above.
4. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
5. Delta College reserves the right to modify graduation requirements.
6. If you plan to pursue an advanced degree, see pages ADVANVED_DEGREE_PAGES for special transfer agreements.

Welding Engineering Technology - Advanced Certificate

Program Code: CTA.35899

The program combines specialized welding training with related technical courses. Students should contact Counseling or the Welding Staff for career or certificate information.

Required Courses

Course	Credits	Course Title	Completed
WELD 103	3	Introduction to Plasma, Carbon Arc, and Fuel Gas	
WELD 114W	8	Intermediate Shielded Metal Arc Welding	
WELD 120	2	Beginning Industrial Blueprint Reading	
WELD 122	2	Blueprint Reading for Welders and Fabricators	
WELD 220	4	WELD Qualification-Plate	
WELD 224W	8	Advanced Shielded Metal Arc Welding	
WELD 226W	8	Gas Tungsten Arc Welding	
WELD 235W	8	Gas Metal Arc Welding	
	43	**SUBTOTAL**	
	43	**TOTAL CREDITS REQUIRED/CERTIFICATE**	

1. A Grade of "C" (2.0) or higher is required in all courses for the certificate.
2. For complete program description and details, please call James Proctor (989) 6896-9599 or Bruce Faccio (989)686-9146.
3. WELD 114 and WELD 235 are prerequisites for WELD 220.
4. WELD 120 is a prerequisite for WELD 122.
5. WELD 114 is a prerequisite for WELD 224.
6. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
7. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Welding Adv Cert**

Welding Adv Cert

Total Program Cost (In District):	$6,644.80
On-Time Completion Rate:	71.40%
Program Job Placement Rate:	0.00%
Median Loan Dept:	$0.00

Welding Engineering Technology - Associate in Applied Science

Program Code: AAS.60897

The program combines specialized welding training with related technical and general education courses. This Associate degree program meets the educational requirements necessary to pursue a baccalaureate degree in a variety of welding related careers. Students should contact Counseling or the Welding Staff for career or transfer information.

General Education Courses

Course	Credits	Course Title	Completed
COM 112W	3	Fundamentals of Oral Communication	
ENG ---	3	Any Approved College Composition I Course	
ENG ---	3	Any Approved College Composition II Course	
LW ---	1	Any 1 Credit LW Course (As of fall 2007) **AND**	
LWA ---	1	Any 1 Credit LWA Course	
		OR	
LW 223W	(2)	Wellness in Technical Trades	
MTH ---	4	Any Approved Intermediate Algebra Course	
MTH 121	3	Plane Trigonometry	
PHY 101	4	Applied Physics	
POL ---	3/4	Any Approved American Government Requirement	
	25/26	**SUBTOTAL**	

Technical Courses

Course	Credits	Course Title	Completed
CAD 114	3	Introduction to CAD	
WELD 103	3	Introduction to Plasma, Carbon Arc, and Fuel Gas	
SKMT 111	3	Metals	
WELD 114W	8	Intermediate Shielded Metal Arc Welding	
WELD 120	2	Beginning Industrial Blueprint Reading	
WELD 122	2	Blueprint Reading for Welders and Fabricators	
WELD 220	4	WELD Qualification-Plate	
WELD 224W	8	Advanced Shielded Metal Arc Welding	
WELD 226W	8	Gas Tungsten Arc Welding	
WELD 235W	8	Gas Metal Arc Welding	
	49	**SUBTOTAL**	
	74/75	**TOTAL CREDITS**	

1. A Grade of "C" (2.0) or higher is required in all Technical Courses.
2. For complete program description and details, please call Bruce Faccio at (989)686-9146 or James Proctor at (989) 686-9599.
3. WELD 114 and WELD 235 are prerequisites for WELD 220.
4. WELD 120 is a prerequisite for WELD 122.
5. WELD 114 is a prerequisite for WELD 224.
6. Transfer students may be advised to complete PHY 111 or PHY 211 instead of PHY 101.
7. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
8. Delta College reserves the right to modify graduation requirements.

Writing - General Writing - Advanced Certificate

Program Code: CEA.35319

By completing this certificate, you will show future employers and educational institutions that you have a commitment to and competency with writing that goes beyond the required College Composition courses. While pursuing the certificate, you will have the opportunity to work in many different genres and forms of writing including journalism, business writing, and creative writing.

Basic Requirements

Course	Credits	Course Title	Completed
ENG ---	3/5	Any Approved College Composition I Course **AND**	
ENG ---	3/5	Any Approved College Composition II Course	
		OR	
OAT 151	(3)	Business Communication I **AND**	
OAT 152	(3)	Business Communication II	
	6/10	**SUBTOTAL**	

In addition, students will take twelve (12) or more credits from the following for completion of certificate:

Course	Credits	Course Title	Completed
CST 110	1	Web Page Development Using HTML	
CST 146	2	Desktop Publishing	
CST 210	2	Advanced Web Page Development	
ENG 116	3	News Writing	
ENG 120	3	Introduction to Creative Writing	
ENG 211	3	Advanced Composition	
ENG 213	3	Advanced Technical Communication	
ENG 214	3	Introduction to Professional Writing	
ENG 216W	3	New Media Writing	
ENG 217	3	Advanced Reporting	
ENG 253	3	Creative Writing: Poetry	
ENG 254	3	Creative Writing: Fiction	
ENG 256	3	Creative Non-Fiction	
ENG 257	3	Advanced Creative Writing	
ENG 258W	2	Introduction to Screenwriting	
ENG 259W	2	Advanced Screenwriting	
ENG 260W	1	Writing Center Practicum	
IHU 267	3	Producing A Student Publication	
LIT 219W	3	Literary Analysis	
OAT 155W	2	Editing	
OAT 171	3	Document Processing: Beginning	
	12	**SUBTOTAL**	
	18/22	**TOTAL CREDITS REQUIRED FOR GENERAL WRITING CERTIFICATE**	

1. A "B" minimum grade is required in each course for the certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Writing - Technical Writing - Advanced Certificate

Program Code: CEA.35320

By completing this certificate, you will show future employers and educational institutions that you have a commitment to and competency with writing that goes beyond the required College Composition courses. While pursuing the certificate, you will have the opportunity to work in many different genres and forms of writing including technical writing, business writing, and creative writing. In addition, you will have hands-on opportunities to learn technologies that support writing's endeavor to communicate.

Required Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course **AND**	
ENG 113	3	Technical Communication	
		OR	
OAT 151	(3)	Business Communication I **AND**	
OAT 152	(3)	Business Communication II	
ENG 211	3	Advanced Composition	
		OR	
ENG 253	(3)	Creative Writing: Poetry	
ENG 213	3	Advanced Technical Communication	
ENG 214	3	Introduction to Professional Writing	
		OR	
ENG 216W	(3)	New Media Writing	
	15	**SUBTOTAL**	

Elective Options (Select One)

Course	Credits	Course Title	Completed
ART 101	3	Photography I	
ART 271	3	Digital Imaging I	
ART 276	3	Electronic Page Design	
ART 279	3	Web Page Design Arts	
COM 114W	3	Interpersonal Communication	
COM 202W	3	Oral Communication for Managers	
CST 146	2	Desktop Publishing	
CST 147	2	Presentation Graphics Using PowerPoint	
	2/3	**SUBTOTAL**	
	17/18	**TOTAL CREDITS**	

0. A "B" (3.0) minimum grade is required in all courses for the certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Youth Services - Certificate of Achievement

Program Code: CSZ.35775

This certificate provides current and future youth care workers with the skills needed to work with juveniles in many different settings. The program is geared toward the human services field. Study areas focus on family dynamics and juvenile delinquency.

Required Courses

Course	Credits	Course Title	Completed
CJ 250	3	The Juvenile Offender	
PSY 211W	4	General Psychology	
PSY 223W	3	Child Psychology	
SOC 211W	3	Principles of Sociology	
SOC 221W	3	Marriage and Family	
SOC 250W	3	Introduction to Social Work	
SOC 300W	3	Interviewing, Counseling, and the Helping Relationship	
	22	**TOTAL CREDITS**	

1. A Grade of "C" (2.0) or higher is required in all courses for the certificate.
2. PSY 300W may be substituted for SOC 300W
3. SOC 300W prerequisite: ENG 111 or any approved College Composition I course.
4. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
5. Delta College reserves the right to modify graduation requirements.

Youth Services - Advanced Certificate

Program Code: CSA.35775

This certificate provides current and future youth care workers with the skills needed to work with juveniles in many different settings. The program is geared toward the human services field. Study areas focus on family dynamics and juvenile delinquency.

Required Courses

Course	Credits	Course Title	Completed
CJ 250	3	The Juvenile Offender	
PSY 211W	4	General Psychology	
PSY 223W	3	Child Psychology	
PSY 225W	3	Adolescent Psychology	
SOC 211W	3	Principles of Sociology	
SOC 212W	3	Social Problems	
SOC 215W	3	Sociology of Minority Groups	
SOC 221W	3	Marriage and Family	
SOC 231W	3	Cultural Anthropology	
SOC 250W	3	Introduction to Social Work	
SOC 300W	3	Interviewing, Counseling, and the Helping Relationship	
	34	**TOTAL CREDITS**	

1. A Grade of "C" (2.0) or higher is required in all courses for the certificate.
2. PSY 300W may be substituted for SOC 300W.
3. SOC 300W prerequisite: ENG 111 or any approved College Composition I course.
4. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 330 for other graduation requirements.
5. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at *https://public.delta.edu/communications/gainfulemployment*.

The information listed below is specific to the **Youth Services**

Youth Services

Total Program Cost (In District):	$4,919.20
On-Time Completion Rate:	NA
Program Job Placement Rate:	NA
Median Loan Dept:	NA

Non-Credit Programs

Delta College offers a variety of classes and programs designed to meet the needs of the diverse communities it serves through non-credit classes. These classes and programs do not lead to a degree or certificate, but are designed to assist individuals with their personal and professional development.

Delta views education as a lifelong process that takes place in a wide variety of environments. Classes are taught on the campus, in public schools, in industrial plants, in commercial office buildings, at Delta College Centers and at other locations.

The College is assisted by program advisory committees; professional, civic and church organizations; governmental agencies; business; the labor industry; and other groups in determining needs and providing education and training to the community.

Financial Aid for Non-Credit Classes:

Financial assistance may be available for students enrolling for LifeLong Learning short-term training program courses through the Delta College Board of Trustees Grant. It is intended for individuals who are supported by some type of public assistance or those employed at a very low income level. Students must be residents of Bay, Midland, or Saginaw Counties. Funds for this grant are limited. An application should be completed at least two weeks prior to expected enrollment. Applications completed later than this may not be considered. For an application please visit the LifeLong Learning website at delta.edu/lifelonglearning.

Kids College

Kids College is a youth development program which offers opportunities during summer for children in 3rd-6th grades. Class offerings are designed to challenge students through hands-on learning experiences.

For more information call 989-686-9185
Midland Callers 495-4000 ext. 9185
Frankenmuth, Reese, Birch Run and Vassar 758-3400

On the Web: *www.delta.edu/kidscollege/*

Want to find out more about LifeLong Learning?

Find us on **FACEBOOK**!

Search:
Delta College LifeLong Learning

Visit us on the **WEB**!

www.delta.edu/LifeLongLearning

Opt in for our **EMAIL UPDATES**!

Two easy steps:

1. Visit our web page at www.delta.edu/lifelonglearning.
2. Enter your email address in the "Sign Up Today!" form.

Contact us in the **H-WING**!

1961 Delta Road, H-Wing
University Center, MI 48710
Phone: (989) 686-9444
Fax: (989) 758-3639
lifelonglearning@delta.edu

LifeLong Learning

We provide anyone the opportunity to grow in knowledge and understanding, to acquire technical and professional skills, to experience new dimensions in human relations, and to develop leadership potential. Our programs and testing services are built on the philosophy that learning is never finished during the life of an individual. Our instructors and staff are committed to making the pursuit of LifeLong Learning possible in the Great Lakes Bay Region.

Career Retraining

Many of our Career Training courses have been offered for nearly 50 years, including Phlebotomy and Health Unit Coordinator! Student success has always been our focus and we pride ourselves with our quality programming, informed instructors and community partnerships. These fast track programs classes are for individuals who want to train for a new career. Programs are from 4-15 weeks in length and are in high demand fields. Students not only receive training, they also get jobs!

Continuing Education & CEU's for Professionals

Earn continuing education units (CEU's) in your current profession, prepare for professional exams, and fulfill licensing certification requirements. All classes have been developed to be high quality, affordable and conscious of the value of your time.

Personal Enrichment

Whether it is building a competitive edge at work by learning new computer software, riding a motorcycle, taking interest in photography, implementing sustainability practices or maximizing your job search success; do not miss the chance to do something for yourself!

General Education

LifeLong Learning offers a variety of online and instructor-led courses to help individuals brush up on their basic skills. Courses offered include GED® Examination Preparation and KeyTrain® for WorkKeys Assessments.

Testing Services

LifeLong Learning now offers testing services for occupational certifications and licensures, as well as standardized testing services including the GED® Test, ACT® WorkKeys® Assessments and more. Please visit our website for a complete list of testing services.

50+ Just Like Gold

This program includes continuing education, learning opportunities, career retraining, quality leisure time and social interaction for Delta's Community residents 50 and better. Engage with like minds and join today.

Online Courses

LifeLong Learning offers a comprehensive online instruction center offering a wide range of highly interactive courses that you can take entirely over the Internet. All of our courses are led by expert instructors, many of whom are nationally known authors. Our online courses are affordable, fun, fast, convenient, and geared just for you.

The common aspect for all Delta College's LifeLong Learning programs is simple – our instructors provide you with a high-impact experience in a minimal amount of time.



Socialize with us!

Section IV

Academic Policies

Grading System

Grades

The grading system at Delta College is a letter system with associated grade points which are used to compute cumulative grade point averages. You will receive one final grade in each course taken.

Grade	Meaning	Grade points per credit
A	Excellent	4.0
A-	Excellent	3.7
B+	Good	3.3
B	Good	3.0
B-	Good	2.7
C+	Average	2.3
C	Average	2.0
C-	Below Average	1.7
D+	Poor	1.3
D	Poor	1.0
D-	Poor	0.7
F	Fail	0
P	Pass (C/2.0 grade or above)	– Not included in computing credits and grade points
I	Incomplete	
X	Audit	
WI	Instructor Initiated Withdrawal	
W	Withdrawal – No Evaluation	
NC	No Credit	

Note: Non Credit Courses also use the above letter grades for their courses; however, no grade points are awarded and grade point averages are not maintained.

Courses below 100 level are considered developmental and do not count toward credit hours earned, credit hours attempted, grade point average, or graduation.

Final Grades

Final grades are generally available to you within one week of the official ending date of each semester. They are available via the Web through My Delta. Final grades are listed on your official academic transcript, which is maintained by the Registrar's Office. Your final grade is the responsibility of individual faculty members. Instructors may exercise their own prerogatives with respect to your grades as long as these prerogatives do not conflict with other institutional policies.

I - Incomplete

An instructor may assign an Incomplete grade if you have not fulfilled all course requirements when final grades are assigned. An Incomplete is a temporary grade given only when your work has been of **acceptable quality** near the end of the course, but the required amount has not been completed because of reasons satisfactory to the instructor.

Requirements of a course are to be completed no later than December 1 for Incomplete grades issued in the Winter and Spring/Summer Semesters and April 1 for Incomplete grades issued in the Fall Semester. In exceptional circumstances, additional time may be granted for completion of course work by written notification from the instructor to the Registrar.

X - Audit

A. A student enrolling in a course for an audit may do so through the automated registration process or by completing an Audit Request Form in the Records and Registration Office no later than the end of the Delta College official refund period. After that date, no courses may be converted from credit to audit or from audit to credit. The Records and Registration Office will:
   1. Inform the instructors of those students auditing their courses.
   2. Inform the Financial Aid Office of those students electing to audit.

B. When a student enrolls in a course as an auditor, the following will apply:
   1. Tuition and fees will be paid as required.
   2. Instructor audit objectives will be fulfilled.
   3. A grade of "X" will be assigned and will not count in the Grade Point Average.
   4. No credit will be earned.

C. Once a student has elected to audit a course, the audit may not be converted to credit.

W - Withdrawal

This grade is used when you officially withdraw from a course from the 12th calendar day through the end of the 12th week (4/5's of course length).

For information on the drop and withdrawal policies and procedures, see Section II, Enrollment, Registration.

WI - Instructor Initiated Withdrawal

This grade is instructor initiated for lack of course prerequisites or attendance through four-fifths (4/5) of the course (the 12th week of a 15-week course).

Grade Change Procedure

Once recorded by the Registrar's Office, grades will be changed only if an official Grade Change Form is submitted online by the instructor and approved by the appropriate academic Dean. The Grade Change Form must be received **no later than one year following grade issuance**. This policy does not apply to grade changes under consideration via the Disputed Grade Policy.

Integrity of Academic Work

See Section VI, Regulations & References.

P/NC - Pass/No Credit Option

The Pass/No Credit grade option is available for several courses at Delta College. If you are interested in this grading option in place of the usual "A" through "F" grading system, you should declare this choice at registration or **no later than** the end of the 12th week of the semester (6th week of a session) by completing a form at the Registrar's Office. Courses approved for the P/NC grade option are listed in each semester's Academic Class Schedule booklet.

Guidelines and Procedures for P/NC Grades:

1. Grades on the P/NC system are not included in computing the semester or cumulative point average.
2. Grade of "P" (Pass): Credit is granted and represents performance at or above the "C"/2.0 level.

   Grade of "NC" (No Credit): No credit is granted and represents performance at or below the "C-"/1.7 level.
3. You may **not** apply more than a total of 12 credits of P/NC course work toward Delta graduation requirements.
4. Enrollment on a P/NC basis is recorded with the Registrar's Office.

   No indication of your P/NC status will be communicated to a faculty member by any office of the College.
5. A letter grade will be on file in the Registrar's Office, but only "P" or "NC" will appear on your transcript.
6. If you desire to have any grades converted from P/NC to letter grades, you may do so by applying to the Registrar's Office **no later than the end of the following semester after the P/NC grade was issued**.
7. Course prerequisites and other criteria for enrolling in any course shall be determined by the Department or Division offering the course and apply equally to both the traditional and the P/NC grading systems.
8. If you are planning to transfer, you should first check with a Delta counselor regarding the acceptance of the P/NC grade option for specific courses by the transfer institution.

Grade Point Average (G.P.A.)

A student's Grade Point Average is determined by dividing the number of credits attempted into the grade points. For example:

	Attempted	Grade	Grade Points
ENG 111	3	B (3.0)	3x3=9
MTH 121	3	B (3.0)	3x3=9
BIO 111	4	C (2.0)	4x2=8
SOC 211	3	A (4.0)	3x4=12
	13		38
G.P.A. = 38 divided by 13 = 2.92			

Credits Attempted - Credits for which the student enrolled and for which grades of A through F were given. Credits for courses in which grades of P, W, WI, I, and X are given are not included here.

Credits Earned - Includes all academic credits taken at Delta for which final grades of A through D- were recorded. Courses below 100 are not included in credit hours earned.

Credits Transferred from other institutions or earned by examination are not included in cumulative averages.

Non-Credit Courses - Non-credit courses are not included in cumulative averages.

Grade Points – The number of grade points earned in a course is the number of credits multiplied by the number of grade points corresponding to the letter grade received. For example, a grade of B+ in a four-credit course equals 13.2 grade points (3.3 x 4 = 13.2).

Repeated Courses – The highest grade received by you for any given course shall be the grade used in computing the cumulative grade point average and the number of credits shall only be counted once in the total number of credits attempted. All grades received by you in a given course shall, however, **remain on your academic transcript** but will be designated by the Registrar's Office as having been repeated, so it is clear that only the highest grades earned are being counted in cumulative totals.

You may not enroll in a course for credit or audit, whether completed or not, more than three times. Exceptions to this policy requires authorization by the appropriate Division Chair or Academic Dean.

Academic Transcripts

Your transcript is the College's official academic record of your work. Your record is updated at the close of each semester. Your academic record includes all academic courses attempted and completed (course titles, credit hours, final grades and honor points), semesters enrolled, transfer credit accepted, courses waived, courses substituted, credit awarded by examination or advanced placement, certificates/degrees awarded, honors, and academic probation/dismissal status. Grades of most Non- Credit course work are also maintained by the Registrar's Office. There is no charge for transcripts up to a maximum of 5 per day. Copies will be sent upon your written request to anyone designated by you. Ordinarily transcripts are mailed within one week. Transcript copies will not be furnished if you have delinquent accounts at the College.

Attendance Policy

It will be necessary for certain groups of students (e.g., veterans, financial aid recipients) to adhere to attendance requirements imposed by the policies of external regulatory agencies beyond the following stipulated by Delta College:

1. Attendance is expected at all courses for your maximum achievement.
2. It is your responsibility to make arrangements for missed course work.
3. The College recognizes that on occasion special College-connected events will conflict with scheduled course/laboratory times. Before those special occasions, you will need to work with the instructor to make alternate arrangements.
4. Individual instructors determine attendance rules and will explain those rules at the initial course meeting and/or in the course syllabus.

Change of Student Information

A change in your name, home address, e-mail address, or program needs to be reported immediately to the Registrar's Office or the Admissions Office. Most communications, and Grade Reports will be sent to your Delta e-mail address. Legal name changes, other than marriage, or a Social Security number change require proper documentation.

Classification of Students

The classifications below apply only to academic students pursuing Certificate or Associate degree programs. Non Credit course hours are not included.

Freshman	29 or fewer credits earned
Sophomore	30 or more credits earned
Full-Time	Enrolled in 12 or more credits during a semester
Part-Time	Enrolled in 11 or fewer credits during a semester

Financial Aid Attendance Information

A student receiving Federal aid who ceases attendance prior to the end date of the semester will be subject to a Title IV Return of Funds recalculation. Depending on your last date of attendance, your financial aid for the semester in question may be adjusted.

Unearned financial aid is returned to programs according to Federal guidelines. Funds are returned in the following order: Federal Loan Programs, Federal Pell Grant, Federal SEOG, and to other Title IV aid programs.

On the Web: http://www.delta.edu/financial-aid-office/attendancepolicy.aspx

Semester Honors

Each semester a President's List is issued of all students who receive a grade point average of 4.0 for that semester; a Vice President's List for all students who receive 3.7 through 3.99 grade point averages; and a Dean's List of students who receive 3.5 through 3.69 grade point averages. To be eligible, you must complete at least 6 credit hours in a Fall, Winter or Spring/Summer Semester. Courses taken on the Pass/No Credit option do not apply.

Disputed Final Grade Policy

Student Guide For Disputed Final Grade

The process involved in deciding to pursue a remedy to a final grade that you are disputing is not easy. Because of the emotional stress and strain that may accompany this process, you should follow these basic steps toward evaluating whether there is factual merit to your dispute and how you need to organize the facts so that others involved might agree with your dispute and support a resulting change in your final grade.

Because Delta is a college-level adult environment, our philosophy is that students are self-sufficient, independent and responsible participants in the interactive, give-and-take, and subjective learning process. There is a human element on the side of the student and on the side of the instructor in every class situation. The human element means that portions of a final grade that may be subjective in nature are always the prerogative of the instructor.

A grade dispute must be based on correctable items or issues. For example, you must be able to point to concrete factors that have affected your final grade—points were left out of the grading total; an exam, project or presentation was scored incorrectly or not counted in the final tally; a project or some extra-credit work did not get factored into the final point total, etc. Examples like these can be verified or discovered by the instructor and/or division chairperson as they respond to your dispute.

Since a final grade assignment is made on an individual basis, the dispute procedure can only be used by an individual questioning his or her own grade and cannot be used by one individual on behalf of a group of individuals.

Grounds for Appeal:

There are only three grounds for a student grade appeal, and any of these grounds may be sufficient to warrant an appeal.

1. The assignment of a grade using standards other than that described on the course outline, syllabus, appropriate addendums or program handbooks.
2. The assignment of a grade using a method other than that used for the other students in the class.
3. The assignment of a grade in a manner inconsistent with College policy, rules and regulations.

Evaluation Strategy 1:

Your first step when considering a final grade dispute should be to revisit the course syllabus and compare its elements to where you believean error in grading occurred. The initial syllabus is very important to your evaluation of how or whether to proceed. It was your "roadmap" for the course and should contain the expectations, standards, and measurements regarding how a final grade would be achieved. In this evaluation you should be able to break your grade down into its various pieces – quizzes, papers, projects, presentations, exams, and elements of class attendance requirements and participation.

Evaluation Strategy 2:

When considering a dispute, this part of your evaluation is critical. You need to understand that learning style differences, needing a certain grade for transfer, meeting a prerequisite, or simply needing or expecting to do better in a course, are not disputable elements. These elements may have had a legitimate impact on your final grade, but it is expected that they would have been addressed much earlier in the course experience and in ways that would support the college-level independence, self-sufficiency and personal responsibility pointed out earlier.

Evaluation Strategy 3:

If after careful self-reflection in steps 1 and 2 you believe that the appeal of your final grade is still solid and tangible, then you should go to the more official step of notifying the Grade Ombudsman, Karen Treadway (LLIC), Phone (989) 686-9275 or email kgtreadw@delta.edu. The following outlines the basic steps and timelines contained in the Disputed Final Grade Policy, 4.025. A complete copy is available from the Grade Ombudsman.

Informal Process

A student who wishes to discuss concerns regarding a final grade will contact, in order, the faculty member, the division Chair, and the Academic Dean. The student must start the informal process no later than 10 days following the date the grade was due. At no time may the informal process extend beyond 25 days after the college due date for submission of final grades. The faculty member and the student will attempt to resolve the differences. The division chair may be asked to assist with the conflict resolution. The Academic Dean will review the merits of the appeal and make any necessary referrals to the appropriate person if a process is to continue. The Grade Ombudsman may be consulted at any stage of the process.

Formal Process

1. To formally appeal a final grade for a course, the student must contact the Grade Ombudsman within 5 days after the conference with the Academic Dean.
2. The student will write, within five days of meeting with the Grade Ombudsman, a one to three page formal word processed statement that explains the circumstances of the disputed grade. The statement will be given to the faculty member by the Ombudsman.
3. The faculty member will write a one to three page formal word processed statement of response and submit it to the Grade Ombudsman within five days of receiving the student's statement.
4. The grade Ombudsman will supply the student with a copy of the faculty member's statement and supply the division chair with a copy of both the student's and instructor's statement.
5. The Grade Appeal Board is composed of seven members: four faculty members, (three appointed by the Faculty Executive Committee and one appointed by the chair from the Division which offers the course in which the grade is being appealed); the appropriate academic dean; one Student & Educational Services representative appointed by the Vice President of Student & Educational Services; and one student from the Student/Senate Liaison Committee, appointed by the Senate President.
6. The Grade Appeal Board will meet within 10 days of receiving the appeal at a time when both parties are available to respond to the Board's questions. Under special circumstances, alternates may be appointed to the Grade Appeal Board by the person originally responsible for the appointment of that position.
7. By majority vote, the Grade Appeal Board will make one of the following decisions within two days of the meeting:
   - The appeal is dismissed and the grade remains.
   - The grade dispute is resolved by changing the grade, or changing the grade under specific conditions. All members of the Board will determine if the grade should be changed and the faculty members on the Board will decide the specific grade to be awarded.
8. Decisions reached by the Grade Appeal Board may be appealed to the President of the College. The President will only hear appeals that involve claims of procedural mistakes made in the process defined above. The President may:
   - Dismiss the appeal
   - Return the case to the Grade Appeal Board for rehearing.

Academic Status

Academic Achievement Standards

1. A minimum cumulative grade point average of "C" (2.0) must be achieved to graduate with an Associate degree or Certificate.
2. A student making **Satisfactory Progress** is defined as:

   a. Satisfactory/No Conditions - A student whose cumulative Grade Point Average satisfies the **Academic Status Scale.**

   b. Academic Caution - A student whose cumulative Grade Point Average (GPA) satisfies the **Academic Status Scale** but is below 2.0 and the credit hours attempted are less 45.
3. A student making **Unsatisfactory Progress** is defined as:

   a. Academic Probation - A student who has attempted 13 or more credit hours and whose cumulative GPA is below the required grade point average as indicated on the **Academic Status Scale.**

   b. Academic Suspension - A student who has been on Probation for at least two Academic Semesters or who has not met the conditions of their **Academic Improvement Plan.**

Table for Determining Academic Status

Following is the table for determining your academic status at Delta College. To use the table: 1) locate on your grade report or academic transcript your cumulative grade point average and the total number of credits attempted; 2) find the corresponding credits attempted in the left-hand column of the table; and 3) read across the page to your right until you locate the column which includes your current cumulative grade point average. This column heading indicates whether you are making Satisfactory Progress or are on Academic Probation.

Academic Status Scale

Credit Hours Attempted		Unsatisfactory Progress	
	No conditions	Caution	Probation
	GPA	GPA	GPA
0 - 12.9	1.50 - 4.0	0.00 - 1.49	
13.0 - 23.9	1.75 - 4.0	1.50 - 1.74	0.00 -1.49
24.0 - 44.9	2.00 - 4.0	1.75 - 1.99	0.00 - 1.74
45.0 or more	2.00 - 4.0		0.00 - 1.99

Procedures for Academic Caution, Probation, and Suspension

I. ACADEMIC CAUTION:

Following each semester, students are notified of their status by the Registrar. Caution students are encouraged to discuss their academic status with a Counselor or Academic Advisor.

II. ACADEMIC PROBATION:

After each semester's grades have been posted, students placed on probation will be notified of their status by the Registrar and will be **required** to develop an Academic Improvement Plan (AIP)[1] with a Counselor. An approved AIP must be on file before students will be allowed to register.

III. ACADEMIC SUSPENSION:

Students on Academic Probation for at least two semesters, who have not met the conditions of their AIP, will be notified of their status by the Registrar's Office. They will be denied enrollment for two consecutive semesters and will also be *de-enrolled* from classes in which they have already registered for upcoming semesters.

1. Students placed on suspension who may have mitigating circumstances[2] may appeal their suspension to the Registrar or his/her designee. If the appeal is successful an AIP will be required prior to registration.
2. Students who wish to enroll *following two semesters on suspension* will be required to meet with an assigned Counselor and have a new AIP on file in the Registrar's Office prior to registering.

[1] ACADEMIC IMPROVEMENT PLAN (AIP)

An Academic Improvement Plan is an agreement that specifies actions to be taken by the student. It includes such things as:

- Specific course selection that will provide for maximum success.
- Number of credits to attempt that semester (based on data presented by student) and approved by their Counselor.
- Assistance e.g. tutoring, selecting peer mentored classes, meeting with instructor.
- Time management strategies.
- Other services as appropriate including Disability Support Services, Counseling,Career Services, etc.

[2] MITIGATING CIRCUMSTANCES

Mitigating circumstances are *documented* conditions beyond the reasonable control of the student that will have a *long-term* effect. Students considering an appeal must first consult with their Counselor.

Academic Fresh Start Appeal Policy

Former students re-enrolling after an absence from Delta College of two (2) or more years may submit a request to the Registrar to have their grade point average recomputed using only those grades earned after re-enrollment. A minimum of six (6) credits must be completed before the grade point average will be recomputed. Students are required to meet with a Delta College Counselor or Academic Advisor before submitting an Academic Fresh Start Appeal application. Academic Fresh Start Appeal applications will be available in the Registrar's office and processed by that office as well. Consulting with a Financial Aid Advisor is also recommended as Financial Aid appeals have distinct guidelines and are a separate policy from Academic Fresh Start. .

1. All courses taken at Delta College will remain on the student's permanent records/transcripts. All course grades prior to re-enrollment will be converted to P/NC (Pass/No Credit) grades. Courses with grades of A, A-,B+, B, B-, C+ and C will become P grades with credit; all other course grades will become NC grades without credit.

2. Students may be granted an Academic Fresh Start Appeal only once. The cumulative grade point average and Academic Achievement policy conditions will be computed using all grades earned from the point of re-enrollment. Students may request specific semesters to be considered for re-computation. Students must consult with a Counselor or Academic Advisor before submission of the appeal.

3. Regardless of the number of P grades resulting from this policy, a maximum of twelve (12) credits of P grades may be applied towards graduation requirements.

Standards of Academic Progress for Financial Aid Recipients

Students must be making satisfactory academic progress toward the completion of an eligible Certificate or Associate degree to be eligible for financial aid.

Standards of Academic Progress for Financial Aid Recipients are applied to all students receiving financial assistance after they have attempted 12.9 credits at Delta College. All semesters and courses in which students registered at Delta College are included in determining Satisfactory Academic Progress, regardless of whether or not the students received financial aid for those semesters and courses.

I. Standards of Academic Progress for Financial Aid Recipients

A. Making Satisfactory Academic Progress is defined as earning a cumulative grade point average (GPA) consistent with the Academic Status Scale below. In calculating the GPA on this Scale, all credits for which students ever enrolled at Delta College are included (grades A through F, P, NC, I, W, and WI, plus all repeated courses).

ACADEMIC STATUS SCALE

Attempted Delta Credits	Minimum GPA Required
0-12.9	0.00
13-23.9	1.50
24-44.9	1.75
45 or more	2.00

B. Making Satisfactory Academic Progress is also defined as having satisfactorily completed 67% or more of all credits in which students have ever enrolled at Delta College.

1. Grades of A, A-, B+, B, B-, C+, C, C-, D+, D, D- or Pass are considered to be satisfactory completions.
2. Grades of W, WI, NC-No Credit, I-Incomplete, and F-Failure are not considered to be satisfactory completions.
3. For students with repeat grades, the lower grade is considered to be an unsatisfactory completion and the higher grade is considered to be a satisfactory completion.
4. For students choosing the Fresh Start option, grades changed to P are considered to be satisfactory completions. Grades changed to NC are not considered to be satisfactory completions. (Students choosing this option should be aware that grades of C-, D+, D, and D-, which are considered as satisfactory completions, will be converted to NC grades, which are not considered to be satisfactory completions.)

C. Satisfactory Academic Progress also requires that financial aid recipients complete the Certificate or Associate degree within a time frame which, by federal regulation, is 150% of the published length of the program. For example, if a student is in an Associate degree program that requires 62 credits, the degree must be completed in a maximum of 150% of 62 credits, or 93 credits including both attempted and completed credits. (Students should consult the Delta College Catalog, Section III, Programs of Study, to find the number of credits required in their Certificate or Associate degree program, then multiply that number by 1.5 to determine the maximum number of credits.)

1. When students reach the maximum number of credits, financial aid will be terminated.
2. All semesters are taken into consideration when determining the maximum number of credits, whether or not students received aid during those semesters.
3. All grades (A through F, P, I, NC, W, and WI) and repeated courses are counted in determining the maximum number of credits.
4. Transfer credit must be taken into consideration when calculating the maximum number of credits for an Associate degree and for a Certificate.

Academic records of aid recipients are reviewed by the Financial Aid Office prior to awarding for the standard academic year (Fall and Winter Semesters) to ensure that Standards of Academic Progress for Financial Aid Recipients continue to be met. Records are reviewed again prior to awarding for the Spring-Summer Semester. Additionally, academic records for loan recipients are checked prior to each disbursement. Students receiving aid whom the College places on Academic Probation between reviews will maintain their aid eligibility (but not their loan eligibility) for the probational semester(s) until the next review, providing them with the opportunity to improve their academic records and once again meet Standards. If Standards of Academic Progress for Financial Aid recipients are not met at the time of the next review, financial aid will be terminated.

II. Appeals

A. Students who have been terminated from further financial aid for failure to meet Standards of Academic Progress have the right to appeal. All appeals must be submitted in writing on the Satisfactory Academic Progress Appeal Form to the Financial Aid Office. Please check with the Financial Aid Office for semester appeal priority dates. Students submitting appeals should state the reasons why satisfactory progress was not made and discuss actions that have been or will be taken to make satisfactory progress in the future. **Documentation supporting the reasons for the appeal must be attached. Appeals submitted without documentation will not be considered.** Mitigating circumstances beyond the reasonable control of students, such as injury or illness, death of a relative, or other special circumstances may be grounds for successful appeals. You must meet with an Academic Counselor/Advisor to create an academic plan, which you are required to follow. Please attach a copy to your appeal.

1. 1. If appeals are approved, students will receive an additional probational semester of aid during which they must follow their approved academic plan (submitted with the Appeal Form). Students must also EITHER complete all courses in which they register with grades of C (2.0) or better (no C-, D+, D, D-, F, or NC grades), and with no Withdrawals (W or WI) and no Incompletes (I), OR once again meet the Delta College Standards of Academic Progress for Fi¬nancial Aid Recipients. At the end of the semester, both grades and academic plans will be checked to ensure students registered for only the courses on their approved academic plan.
2. If students have met the Standards of Academic Progress for Financial Aid Recipients, aid will once again be awarded. If students have not met these Standards, but have met the conditions stated in No. 1 above, further aid will be granted on a probational semester-by-semester basis. Grades will be checked at the end of each semester before aid is awarded for the next semester to ensure that students are continuing to make academic progress. This process will continue until such time as the student once again meets the Standards of Academic Progress for Financial Aid Recipients. If it should be found that students have not made academic progress during one of these probational semesters, aid will be denied and the students will have to attend at their own expense until such time as the Standards of Academic Progress for Financial Aid Recipients are once again met.

B. A second Standards of Academic Progress appeal may be submitted to the Director of Financial Aid if a student has additional documentation for consideration. The Directors decision regarding the second appeal will be considered final.

Graduation Requirements

Degrees and Certificates Granted by Delta College

- Associate in Arts
- Associate in Science
- Associate in Fine Arts
- Associate in Applied Arts
- Associate in Applied Science
- Associate in General Studies
- Associate in Business Studies
- Dual Degree
- Certificate of Completion
- Certificate of Achievement
- Advanced Certificate
- Post Associate Certificate

Statement of General Education

Delta College is committed to general education for our community college students. General education develops basic knowledge, critical thinking skills, and values that influence our behavior and motivate us as lifelong learners. Delta College, along with area employers, transfer institutions, and the greater community, agrees that general education is key to personal and professional success.

The general education learning goals are attained through experiences in the curriculum both in and outside of the classroom.

Basic Requirements

1. Earn a minimum cumulative grade point average of "C" (2.0) in the courses required to complete a specific Associate Degree or Certificate.
2. Fulfill all of the prescribed requirements of the Degree or Certificate including courses, credit hours, grades, and/or hours of attendance.

   See Section III, Programs. (Courses numbered below 100 do not count toward any associate degree or certificate.)
3. Successfully complete "key courses," if applicable, in a program within a stated timeframe. Students may, therefore, need to repeat certain courses, even though a passing grade was previously earned.
4. File an application for an Associate or Dual degree and/or Certificate with the Registrar's Office at least three months before your anticipated graduation date.
5. Fulfill all financial obligations to Delta College.
6. The number of P (pass) credits applied to a Degree or Certificate must not exceed 20% of total required credits of the Degree or Certificate and must not exceed 12 credits.
7. For Certificates, a minimum of two-thirds (2/3) of program credits or 24 credits, whichever is less, must be earned at Delta College. Any programmatic exceptions to the two-thirds (2/3) or 24 credit requirement will be approved by the Curriculum Council and identified in Section III, Programs.
8. For Associate Degrees, a minimum of sixty-two (62) credits hours must be earned. A minimum of twenty-four (24) credit hours must be Delta College academic credits.

Courses designated by an "H" (for Honors), "C" (for courses that require co-registration in another course), "W" (for Writing), and "SL" (Academic Service Learning,) are considered course variations of a regular course and incorporate the same course content. Course variations are considered equal in meeting graduation requirements and prerequisites. Lab courses designated by an "L" are not considered a course variation.

Continuous Attendance

If your attendance has been continuous in the same program you may, for the purpose of graduation, elect either the program in effect at the time of your first registration at Delta or the program in effect at the time of your application for graduation. Continuous attendance is defined as attending a minimum of one semester during each academic year since your first registration or when you officially declared your program of study. If your attendance has not been continuous, you must follow the program in effect at the time of your readmission to Delta College.

Completion of requirements for either the Associate in Arts Degree or the Associate in Science Degree may fulfill the requirements of the MACRAO Articulation Agreement. Information on the MACRAO Articulation Agreement is on page 24.

Specific major program requirements and acceptable courses within the group requirement areas differ among transfer colleges and universities. It is recommended that if you are planning to transfer, you should consult with a counselor/advisor to ensure that your planned course work meets the requirements for graduation from Delta College as well as specific requirements at other institutions into which you may wish to transfer.

You must complete courses from at least two subject areas listed in each of Groups I, II, and III. "All" includes courses numbered 100-299; courses below 100 are excluded. Courses listed in more than one group may only be counted once.

Group I: Humanities (in at least two subject areas)

American Sign Language (ASL) All

Architectural Technology: ARC 251 only

Art: All except ART 113, 219, 283, 289

Communications (COM): All

Electronic Media Broadcasting: EMB 140, 175 only

English: ENG 120, 214, 253, 254, 256 only

French (FR): All

German (GE): All

History: HIS 111 and 112 only

Interdisciplinary Humanities (IHU): All

Literature (LIT): All

Music: All except MUS 138

Philosophy (PHL): All

Psychology: PSY 232

Spanish (SPA): All

Social Science Interdisciplinary: SSI 110, 232, 234 only

Group II: Social Science (in at least two subject areas)

Biology: BIO 230 only

Economics (ECN): All

History (HIS): All

Geography (GEO): All except GEO 103, 111, 261, 267

Interdisciplinary Humanities: IHU 110 only

Interdisciplinary Social Science (SSI): All

Political Science (POL): All

Psychology (PSY): All except PSY 235, 300

Sociology (SOC): All except SOC 157, SOC 158, SOC 159, SOC 161, SOC 162, SOC 300

Social Science Interdisciplinary (SSI): All

Technical Trades Interdisciplinary (TTI): TTI 100W (only)

Group III: Natural Science Must include at least one lab science course from a category below.

Natural Science courses that count as a lab science:

Astronomy (AST): AST 111L provided credit has been earned for AST 111.

Biology (BIO): Any BIO class that is at least three (3) credit hours excluding: BIO 101, BIO 272 and B IO 274

Chemistry (CHM): All excluding: CHM 210, CHM 220, CHM 221, CHM 231, CHM 290 – 299

Geography (GEO): GEO 103 and GEO 111

Geology (GLG): GLG 111, GLG 112, GLG 115, GLG 130, GLG 180 and GLG 230

Physical Science (PSC): PSC 101 and PSC 102

Physics (PHY): PHY 101, PHY 111, PHY 112, PHY 211 and PHY 212

Natural Science courses that do not count as a lab science:

Astronomy (AST): AST 111, AST 290 – 299

Biology (BIO): BIO 230, BIO 272, BIO 274, BIO 290 – 299 or any BIO course which is only one (1) or two (2) credit hours

Chemistry (CHM): CHM 210, CHM 220, CHM 221, CHM 231, CHM 290 - 299

Computer Science (CST): CST 180, CST 183, and CST 280 only

Environmental Science(ENV): ENV 310 and ENV 320 only

Geography (GEO): GEO 261 and GEO 267 only

Geographic Information Systems (GIS): GIS-101

Geology (GLG): GLG 102, GLG 119, GLG 122, GLG 123, GLG 125, GLG 262, GLG 266, GLG 267, GLG 268 and GLG 290 - 299

Interdisciplinary Science (SCI): SCI 250 and SCI 290-299 only

Mathematics (MTH): MTH 110 and above except MTH 117

Physical Science (PSC): PSC 290 - 299

Physics (PHY): PHY 213 and PHY 290 - 299

Sociology (SOC): SOC 230 only

Note: HIS 111 and 112, PSY 232 may be included in either Group I or Group II, but may not be counted in both groups. BIO 230 and SOC 230 may be included in either Group II or Group III, but may not be counted in both groups.

Note: HIS 111 and 112, PSY 232 may be included in either Group I or Group II, but may not be counted in both groups. BIO 230 and SOC 230 may be included in either Group II or Group III, but may not be counted in both groups.

Group Requirements for Associate in Arts and Science Degrees

Associate in Arts (A.A.)

1. Fulfill all Basic Requirements.
2. Satisfactorily complete three (3) credits in College Composition I or an approved equivalent from the following list of approved courses:

   ENG 111, 111A, 111C or 111H
3. Successfully complete(3) three credits in College Composition II, or an approved equivalent from the following list of approved courses:

   ENG 112, 112A, 112H, ENG 113, ENG 211

   Successfully complete a minimum of eight (8) credits in each of Groups I, II and III. See page 26 for MACRAO Articulation Agreement stipulations.

   a) Group I (Humanities): Complete courses from two different disciplines.

   b) Group II (Social Sciences): Complete courses from two different disciplines.

   c) Group III (Natural Science/Math): Complete courses from two different disciplines, including one lab science course of at least fifteen contact hours.

4. Successfully complete three (3) credits in Communication from the following list of approved courses:

   COM 112, COM 114, COM 202, COM 212, COM 214, COM 215, COM 222, COM 224, COM 235, COM 236, COM 244 or COM 245

   These three credits will contribute to your MACRAO Group I (Humanities)

5. Successfully complete three (3) to four (4) credits in Foundational Civics courses from the following list of approved courses:

   POL 103, 104, 212, 215, 220, 221, 223, 225, 228, 232, 229, HIS 221, HIS 222 or HIS 237

   These credits will contribute to your MACRAO Group II (Social Sciences)

Note: POL-104 will satisfy requirements 5 and 6.

6. Successfully complete one of the following Civic Engagement options in addition to the Foundational Civics courses listed in 5:

   a) Designated Service Learning course across the curriculum (SL will appear after the courses designation)

   b) A Social Science Civic Engagement project (1 credit) A Faculty member must supervise this project, either as a project tied to a course, or as individualized instruction.

Note: POL-104 will satisfy requirements 5 and 6.

7. Successfully complete (3) three to (4) four credits in Mathematics courses from the following list of approved courses:

   MTH 116, 118, MTH 120 or higher.

   These credits will contribute to your MACRAO Group III (Natural Science/Math)

Note: Other options for meeting this requirement include appropriate AP scores and credit by exam.

8. Successfully complete six credits in writing-across-the curriculum (W will after the course designation).

   Students with previously-earned Baccalaureate, or higher, degrees, from regionally accredited colleges and universities are exempt from this policy.

9. Successfully complete a minimum of (2) two credits of Lifelong Wellness:

   LW (2 or 3 credits) or LW (1 credit) and any LWA course (1 credit) or LWT course (3 – 4 credits) from the following list of courses or options : LW 206, LW 220W LW 221W, LW 222, LW 223, LWT 230, LWT 242 or LWT 251.

   Students can meet the LWA activity course requirements with a current, nationally recognized personal training or group fitness instructor certification or military experience. The LWA requirement can be met with validated participation in a full season of intercollegiate athletics. Students with a documented disability may also obtain a waiver for the activity course through Disability Resources.

Associate in Science (A.S.)

1. Fulfill all Basic Requirements.
2. Satisfactorily complete three credits in English Composition I or an approved equivalent from the following:

   ENG 111, 111A, 111C or 111H

3. Successfully complete(3) three credits in College Composition II, or an approved equivalent from the following list of approved courses:

   ENG 112, 112A, 112H, ENG 113, ENG 211

4. Successfully complete a minimum of eight (8) credits in each of Groups I, II and III. See page 26 for MACRAO Articulation Agreement stipulations.

   a) Group I (Humanities): Complete courses from two different disciplines.

   b) Group II (Social Sciences): Complete courses from two different disciplines.

   c) Group III (Natural Science/Math): Complete courses from two different disciplines, including one lab science course of at least fifteen contact hours.

4. Successfully complete three (3) credits in Communication from the following list of approved courses:

   COM 112, COM 114, COM 202, COM 212, COM 214, COM 215, COM 222, COM 224, COM 235, COM 236, COM 244 or COM 245

   These three credits will contribute to your MACRAO Group I (Humanities)

5. Successfully complete three (3) to four (4) credits in Foundational Civics courses from the following list of approved courses:

   POL 103, 104, 212, 215, 220, 221, 223, 225, 228, 232, 229, HIS 221, HIS 222 or HIS 237

   These credits will contribute to your MACRAO Group II (Social Sciences)

Note: POL-104 will satisfy requirements 5 and 6.

6. Successfully complete one of the following Civic Engagement options in addition to the Foundational Civics courses listed in 5:

   c) Designated Service Learning course across the curriculum (SL will appear after the courses designation)

   d) A Social Science Civic Engagement project (1 credit) A Faculty member must supervise this project, either as a project tied to a course, or as individualized instruction.

Note: POL-104 will satisfy requirements 5 and 6.

7. Successfully complete (3)three to (4) four credits, of a minimum of twenty total credits, from the following list of approved courses:

   MTH 120, 121, 122,151, 153, 160, 161, 162, 208, 260, 261, 263, 264 or 290 – 299.

   These credits will contribute to your MACRAO Group III (Natural Science/Math)

Note: Other options for meeting this requirement include appropriate AP scores and credit by exam.

8. Successfully complete (6) six credits in writing-across-the curriculum (W).

   Students with previously-earned Baccalaureate, or higher, degrees from regionally accredited colleges and universities are exempt from this policy.

9. Successfully complete a minimum of (2) two credits of Lifelong Wellness:

   LW (2 or 3credits) or LW (1 credit) and any LWA course (1 credit) or LWT course (3 – 4 credits) from these approved courses or options : LW 206, LW 220W LW 221W, LW 222, LW 223, LWT 230, LWT 242 or LWT 251.

   Students can meet the LWA activity course requirements with a current, nationally recognized personal training or group fitness instructor certification or military experience. The LWA requirement can be met with validated participation in a full season of intercollegiate athletics. Students with a documented disability may also obtain a waiver for the activity course through Disability Resources.

Group Requirements for Associate in Arts and Science Degrees

Many students earning the Associate in Arts or Science transfer on successfully to four year colleges or universities. Completion of requirements for either the Associate in Arts Degree or the Associate in Science Degree may fulfill the requirements of the MACRAO Articulation Agreement. This agreement facilitates transfer of Delta College courses to participating colleges and universities. Information on the MACRAO Articulation Agreement can be found on page 26.

Specific major program requirements and acceptable courses within the group requirement areas differ among transfer colleges and universities. You must complete courses from at least two subject areas listed in each of Groups I, II, and III. "All" includes courses numbered 100-299; courses below 100 are excluded. Courses listed in more than one group may only be counted once.

Group I: Humanities (in at least two subject areas)

American Sign Language (ASL) All

Architectural Technology: ARC 251 only

Art: All except ART 113, 219, 283, 289

Communication (COM): All

Electronic Media Broadcasting: EMB 140, 175 only

English: ENG 120, 214, 253, 254, 256 only

French (FR): All

German (GE): All

History: HIS 111 and 112 only

Interdisciplinary Humanities (IHU): All

Literature (LIT): All

Music: All except MUS 138

Philosophy (PHL): All

Psychology: PSY 232

Spanish (SPA): All

Social Science Interdisciplinary: SSI 110, 232, 234 only

Group II: Social Science (in at least two subject areas)

Biology: BIO 230 only

Economics (ECN): All

History (HIS): All

Geography (GEO): All except GEO 103, 111, 261, 267

Interdisciplinary Humanities: IHU 110 only

Interdisciplinary Social Science (SSI): All

Political Science (POL):

Psychology (PSY): All except PSY 235, 300

Sociology (SOC): All except SOC 157, SOC 158, SOC 159, SOC 161 and SOC 162

Social Science Interdisciplinary (SSI): All

Technical Trades Interdisciplinary (TTI): TTI 100W (only)

Group III: Natural Science Must include at least one lab science course from a category below.

Natural Science courses that count as a lab science:

Astronomy (AST): AST 111L provided credit has been earned for AST 111.

Biology (BIO): Any BIO class that is at least three (3) credit hours excluding: BIO 101, BIO 272 and B IO 274

Chemistry (CHM): All excluding: CHM 210, CHM 220, CHM 221, CHM 231, CHM 290 – 299

Geography (GEO): GEO 103 and GEO 111

Geology (GLG): GLG 111, GLG 112, GLG 115, GLG 130, GLG 180 and GLG 230

Physical Science (PSC): PSC 101 and PSC 102

Physics (PHY): PHY 101, PHY 111, PHY 112, PHY 211 and PHY 212

Natural Science courses that do not count as a lab science:

Astronomy (AST): AST 111, AST 290 – 299

Biology (BIO): BIO 230, BIO 272, BIO 274, BIO 290 – 299 or any BIO course which is only one (1) or two (2) credit hours

Chemistry (CHM): CHM 210, CHM 220, CHM 221, CHM 231, CHM 290 - 299

Computer Science (CST): CST 180, CST 183, and CST 280 only

Environmental Science(ENV): ENV 310 and ENV 320 only

Geography (GEO): GEO 261 and GEO 267 only

Geographic Information Systems (GIS): GIS-101

Geology (GLG): GLG 102, GLG 119, GLG 122, GLG 123, GLG 125, GLG 262, GLG 266, GLG 267, GLG 268 and GLG 290 - 299

Interdisciplinary Science (SCI): SCI 250 and SCI 290-299 only

Mathematics (MTH): MTH 110 and above except MTH 117

Physical Science (PSC): PSC 290 - 299

Physics (PHY): PHY 213 and PHY 290 - 299

Sociology (SOC): SOC 230 only

Note: HIS 111 and 112, PSY 232 may be included in either Group I or Group II, but may not be counted in both groups. BIO 230 and SOC 230 may be included in either Group II or Group III, but may not be counted in both groups.

Successfully complete a minimum of two credits of Lifelong Wellness:

LW (2 or 3 credits) or LW (1 credit) and any LWA course (1 credit) or LWT course (3 – 4 credits) from these approved courses or options : LW 206, LW 220 LW 221, LW 222, LW 223, LWT 230, LWT 242 or LWT 251.

The LW requirements can be met with a current, nationally recognized personal training or group fitness instructor certification or military experience. The LWA requirement can be met with validated participation in a full season of intercollegiate athletics. Students with a documented disability may also obtain a waiver through Disability Resources for the activity.

Associate in Applied Arts (A.A.A.)

1. Fulfill all Basic Requirements.
2. Satisfactorily complete all courses listed in one of the Delta College occupational curricula. See Section III, Programs.
3. Successfully complete six credits in content-area writing courses. Students with previously-earned degrees from regionally accredited colleges and universities are exempt from this policy.
4. Successfully complete two credits of Lifelong Wellness:
   LW --- (2 credits), or
   LW --- (1 credit) and any LWA course (1 credit), or
   LW 206A, LWA 206B, and LWA 206C for occupational programs (2 credits).
5. Successfully complete an approved course in government: POL 103, 104, 111, 212, 215, 220, 221, 223, 225, or 228.

Associate in Applied Science (A.A.S.)

1. Fulfill all Basic Requirements.
2. Satisfactorily complete all courses listed in one of the Delta College occupational curricula. See Section III, Programs.
3. Successfully complete six credits in content-area writing courses. Students with previously-earned degrees from regionally accredited colleges and universities are exempt from this policy.
4. Successfully complete two credits of Lifelong Wellness:
   LW --- (2 credits), or
   LW --- (1 credit) and any LWA course (1 credit), or
   LW 206A, LWA 206B, and LWA 206C for occupational programs (2 credits).
5. Successfully complete an approved course in government: POL 103, 104, 111, 212, 215, 220, 221, 223, 225, 228 or 229.

Associate in Business Studies (A.B.S)

1. Fulfill all Basic Requirements.
2. Satisfactorily complete all courses listed in one of the Delta College occupational curricula. See Section III, Programs.
3. Successfully complete six credits in content-area writing courses. Students with previously-earned degrees from regionally accredited colleges and universities are exempt from this policy.

4. Successfully complete two credits of Lifelong Wellness:
   LW --- (2 credits), or
   LW --- (1 credit) and any LWA course (1 credit), or
   LW 206A, LWA 206B, and LWA 206C for occupational programs (2 credits).
5. Successfully complete an approved course in government: POL 103, 104, 111, 212, 215, 220, 221, 223, 225, 228 or 229.

Associate in Fine Arts (A.F.A.)

1. Fulfill all Basic Requirements.
2. Satisfactorily complete all courses listed in one of the Delta College occupational curricula. See Section III, Programs.
3. Successfully complete six credits in content-area writing courses. Students with previously-earned degrees from regionally accredited colleges and universities are exempt from this policy.
4. Successfully complete two credits of Lifelong Wellness:
   LW --- (2 credits), or
   LW --- (1 credit) and any LWA course (1 credit), or
   LW 206A, LWA 206B, and LWA 206C for occupational programs (2 credits).
5. Successfully complete an approved course in government: POL 103, 104, 111, 212, 215, 220, 221, 223, 225, 228 or 229.

Associate in General Studies (A.G.S.)

This degree will meet your needs if your goal is self-enrichment and you are not following a specific occupational or transfer program. All courses offered for academic credit at Delta College are applicable to this degree as per course descriptions. Because of the limited transferability, or in some cases non-transferability, of this degree, it is strongly suggested that you discuss this option with a counselor/advisor and consider fulfilling the Group Requirements.

1. Fulfill Basic Requirements Nos. 1, 2, 4, 5, 6, and 8.
2. Successfully complete six credits in content-area writing courses.* Students with previously-earned degrees from regionally accredited colleges and universities are exempt from this policy.
3. Successfully complete an approved course in government: POL 103, 104, 111, 212, 215, 220, 221, 223, 225, 228 or 229.

Associate Degree Requirements for Subsequent, Concurrent, and Dual Degree(s)

Associate Degree(s) can be earned concurrently or following other earned degree(s).

A. Subsequent Associate Degree Requirements

Students may earn a Delta College associate degree after previously earning an associate or higher degree from a regionally accredited college or university

1. Writing, Lifelong Wellness and Government graduation requirements will be waived for candidates with a Baccalaureate or higher degree from a regionally accredited institution unless occupational curricula competencies specify otherwise.
2. Fulfill all Basic Degree requirements.
3. Satisfactorily complete a planned curriculum in one (1) degree, with the exception of the Associate in General Studies.
4. Earn a minimum of twenty-four (24) additional semester hours of credit by instruction at Delta College. Accordingly, the minimum number of credits earned must equal the credits required for the first degree plus 24.

B. Concurrent Degree Requirements

Students may earn two Delta College associate degrees concurrently. While working on one degree at Delta College, students may complete courses applied to a second associate degree. Therefore, credits earned beyond those needed for the first degree may be applied toward the second degree.

1. Fulfill all Basic Degree requirements.
2. Satisfactorily complete a planned curriculum in two (2) degrees, with the exception of the Associate in General Studies.
3. At least 48 credits must be earned at Delta College: 24 credits to meet the residency requirements of the first degree, and 24 credits to meet the residency requirements of the concurrent degree.

C. Dual Associate Degree Requirements

Dual degrees are available for students in several fields. Requirements are generally completed concurrently. The Counseling and Advising Office has a listing of approved Dual Degrees. Also see Section III, Programs, Dual Degrees.

1. Fulfill all Basic Degree requirements.
2. Satisfactorily complete all courses listed in one (1) of the Delta College curricula approved for the Dual Degree.
3. Satisfactorily complete a minimum of an additional twenty-four (24) semester hours as prescribed for the Degree. Accordingly, at least 48 credits must be earned at Delta College: 24 credits to meet the residency of the first degree, and 24 additional program credits.

Commencement

One of the most memorable moments in your life will be receiving your Certificate or Associate degree from Delta College. You will want to attend Commencement, which will highlight this special moment for you and your family. Give your family and friends the special pleasure of seeing you graduate from Delta College.

Although you may complete graduation requirements at the end of the Fall or Spring Semester, Commencement ceremonies are only held once a year at the end of the Winter Semester. Diplomas however, are mailed to you by the Registrar's Office approximately four weeks after the end of the month in which you complete your requirements.

The Commencement Program and your academic transcript will carry special designations if you complete your Associate degree with an outstanding academic record according to the following cumulative grade point averages:

3.50 -3.69 Honors
3.70 -3.89 High Honors
3.90 -4.00 Highest Honors

Transfer students are eligible for graduation honors if they have completed at least twenty-four (24) credit hours of a curriculum at Delta College.

Student Awards

Outstanding students are recognized each year for their academic achievement and leadership while in attendance at Delta College. These awards are sponsored by individuals, businesses, and organizations that are committed to the Delta College Community. The Graduate Student Award Ceremony and Reception is held the week of Commencement each spring. Award recipients are presented an individual plaque, have their name inscribed in a group plaque for display in a Delta College showcase, and are presented a cash honorarium. Award application information is available from the Vice President of Students Office B-137 mid-January. Recipients are strongly encouraged to attend the ceremony.

Candidates are encouraged to apply for an award and MUST meet the following criteria for current academic year.

- Already graduated with an Associate Degree in the proceeding months of May – December OR
- Graduating with an Associate Degree in January-April. Application for Graduation must be submitted to the Registrar's Office to be eligible.
- Recipient may not win the same award twice.

Items considered by all Award Selection Committees:

- Delta College Cumulative Grade Point
- Delta College Grade Point in coursework directly related to specific award
- Community involvement active participation in volunteer associations, college clubs(and organizations, church clubs and associations, independent volunteerism examples)
- Letters of recommendation from faculty/staff, supervisors,and volunteer coordinators.

Award Descriptions:

Board of Trustees Award

Presented to graduates who have earned a 4.00 Cumulative GPA and a minimum of 45 Delta credits.

William R. Collings Award of Excellence–Highest Recognition Award

The Outstanding Achievement, Leadership Potential and Service Graduate Award was established by Dow Corning Corporation of Midland, in memory of Dr. William R. Collings. Dow Corning Corporation was formally established in 1943, and Dr. Collings was named company's first general manager, later serving as president from 1954 to 1962. He was also a Charter Member of the Delta College Board of Trustees, and served on the Board from 1957 to 1976. The Dr. William R. Collings Award of Excellence has been given out since 1986 in memory of Mr Colling's wise and generous counsel and superior leadership as president of the Dow Corning Corporation. This award recognizes academic achievement and superior citizenship. The graduate must have an excellent academic record and potential for outstanding future achievement. Evidence of demonstrated leadership in extracurricular activities that benefit the College and community is essential. Finalists will be contacted for a personal interview with the Awards committee.

Robert & Joyce Hetzler Family – Highest Recognition Award

Outstanding Graduate in Service & Leadership. The Hetzler Award was established in honor of Robert and Joyce Hetzler Family. Mr. Hetzler is former Chair of the Foundation Board, and the retired President and Chief Executive Officer of Monitor Sugar Company. Mrs. Hetzler taught home economics at schools in Michigan and Virginia for five years before raising the couple's children. The award recognizes the graduate who has demonstrated outstanding achievement based on service and leadership to the college and the community. A high level of academic achievement at Delta must also be evident as documented by letters of recommendation or other documentation. Personal service and leadership examples include, but are not limited to volunteer work at schools, churches, charitable organizations, and fund raisers. Finalists will be contacted for a personal interview with the Awards Committee.

(Applied) Industrial/Technical Award - Sponsor: Gougeon Employee Foundation

In 1969, Meade Gougeon and his younger brother Jan, who's hometown is Bay City, founded Gougeon Brothers' Boatworks to build iceboats. Gougeon Brothers, Inc. has always been a privately-held company but in 1983, set the ground work to become an employee-owned company. In effect, any Gougeon employee you speak with is a part-owner of the company with a vested interest in keeping customer satisfaction. Gougeon Brothers, Inc. has a mission statement affirming their purpose to provide safe, high-quality, cost-effective products and comprehensive technical information supported by continual research and development.The following programs are considered for this award: HVAC, Fire Science, Refrigeration,Machine Tools, Welding, Skilled Trades, Construction, Manufacturing.

Art Award – Sponsor: Peter & Suzanne Frantz

The Peter B. and Suzanne Smith Frantz Art Award Endowment was made possible with a gift of from Mr. Frantz in memory of his wife. Mr. Frantz spent his career as an architect, and authored a book in 2000, Jane's Letters from Ireland: 1884-1886, featuring letters from his maternal grandmother, Jane Stanley, one of America's premier watercolor artists. Mrs. Frantz, who passed away in July 2005, was an accomplished artist who worked in the photography department at Delta College and exhibited her work at Adrian College, Central Michigan University and Alma College. The following programs are considered for this award: Art Majors, Electronic Media/Graphic Designs and graduates who completed multiple art classes.

Business Management Award – Sponsor: Morley Foundation

The Morley Foundation was established in 1948 by Mr. and Mrs. Ralph C. Morley Sr. Morley Companies. The Morley Foundation Award recognizes annually the outstanding Delta graduate in business programs and business management. The award has been established to recognize academic achievement and good citizenship, thereby demonstrating the business community's concern and appreciation of superior performance. Additionally, it is expected such recognition will encourage other students

to strive for success in the area of business. The following programs are considered for this award: Construction Management, Cosmetology Management, Marketing Management, Merchandising Management, Retail Management, Small Business Management, Business Management, and Business Administration.

Education Award – Sponsor: Edward & Kathryn Dunn Langenburg

Edward and Kathryn (Dunn) Langenburg of Bay City are retired educators, the parents of two children - Scott and Ann-Marie - and the grandparents of six. Mr. Langenburg worked for 31 years as a counselor and administrator for the Bay City Public Schools, and Mrs. Langenburg worked for 32 years as a mathematics teacher for Bangor Township and Bay City Public Schools. Mr. Langenburg received a Bachelor of Arts degree in Education and a Master's degree in Counseling from Central Michigan University. Mrs. Langenburg attended Bay City Junior College and received an Associate's degree from Delta College (graduating during the College's first commencement exercises), a Bachelor of Science degree in Mathematics from Central Michigan University, and a Master's degree in Teaching from Saginaw Valley State University. She is a member of the Delta College Foundation Board of Directors, and believes in giving back to Delta College for scholarship support she received when she was a college student. The following programs are considered for this award: Child Development, Teacher Assistant, Industrial Technology Education, Art Education, Business Education, Elementary Education, Industrial Arts Education, Music Education, Physical Education, Pre-School Education, Secondary Education, and Special Education.

Engineering & Technology Award – Sponsor: Fred E. Dulmage

The Fred E. Dulmage Memorial Award annually recognizes the outstanding Delta College graduate in mechanical engineering and technology. It was established to recognize academic achievement and good citizenship thereby demonstrating Delta College's appreciation of superior performance. Additionally, it is expected such recognition will encourage other students to strive for success. The following programs are considered for this Award: Mechanical Engineering Technology, Pre-Engineering, and graduates with demonstrated excellence in CAD, CNC, & DRF courses.

English Award – Sponsor: Margaret Timm

This award was established by Mr. Wesley Timm in memory of his wife Margaret Timm. A Bay City native, Mrs. Timm attended Bay City Public Schools and Bay City Junior College concentrating on foreign languages and graduating in 1931. She continued her studies in foreign languages at the University of Michigan. In 1933, she graduated with a major in Latin, minors in French and German, a K-12 Teaching Certificate and a Phi Beta Kappa key. At Central Michigan and Purdue Universities, she earned two Master degrees in English. When Garber High School opened, she was English Department head and introduced Advanced Placement English. For 30 years, Mrs. Timm emphasized excellence in all her classes as she prepared the students for college and life. At age 80, Margaret retired in 1993. She passed away in 2001. Mr. Timm, a member of the "Committee of 300" (considered to be founders of Delta College), passed away in 2007. The following programs are considered for this award: Journalism and/or emphasis on courses within the English Division. Nominees must submit two writing samples. The English Division faculty will select the award recipient.

Finance Award – Sponsor: Chemical Bank

Chemical Financial Corporation (CFC) is the third largest bank holding company in Michigan, operating 129 Chemical Bank offices located throughout Michigan's Lower Peninsula. Chemical Bank understands the people, resources and potential of the communities in which they serve and help to make their communities better now and in the future for their neighbors and families. At Chemical Bank, this "neighbor-helping-neighbor" spirit is important. Programs considered, but not limited to: Accounting.

Foreign Language Study Award – Sponsor: Lola Bishop Whitney Recognition

During her long life from July 13, 1883 until March 26, 1976, Lola Bishop Whitney lived a life which was filled with a spirit of adventure and a commitment which inspired students during her 41 years of teaching. As a dedicated teacher, she inspired students to study, to learn, to explore, and to strive for the best within them. It is hoped that her zest for adventure and learning will be communicated to those who receive awards and recognition from her endowment fund, and that her life will forever be an inspiration for students of all ages. The Lola Bishop Whitney Foreign Language Award was established to encourage and support foreign language study, which was a life-long pursuit for Lola Bishop Whitney, the former language teacher in Bay City. The following programs are considered for this award: Foreign Language majors, International Studies, or students who have demonstrated sustained excellence in foreign language courses over several semesters of study.

Health Sciences Award –Sponsor: James McIntyre

The Outstanding Graduate in Health Science Programs Award (except Nursing) was created by James R. McIntyre, a lifetime Saginaw resident and Delta College supporter. Mr. McIntyre was employed by and later owned the McIntyre Funeral Chapel for 45 years, retiring in 2005. He was a Past President of the Saginaw (Downtown) Lions Club, the West Saginaw Civic Association and Second Vice President of PRIDE in Saginaw. He was named honorary grand marshal of the 2005 PRIDE Christmas Parade. Health Science Programs (except Nursing) considered for this award: Dental Assisting, Dental Hygiene, Diagnostic Medical Sonography, Physical Therapist Assistant, Radiography, Respiratory Care, and Surgical Technology.

Law Enforcement Award – Sponsor: F.O.P. Bay City Lodge 103

The Fraternal Order of Police is the world's largest organization of sworn law enforcement officers, with more than 324,000 members in more than 2,100 lodges. They are the voice of those who dedicate their lives to protecting and serving our communities, and are committed to improving the working conditions of law enforcement officers and the safety of those we serve through education, legislation, information, community involvement, and employee representation. No one knows the dangers and the difficulties faced by today's police officers better than another officer, and no one knows police officers better than the F.O.P. The following programs are considered for this award: Corrections, Basic Police Training Certification Track, Law Enforcement.

Life Sciences Award – Sponsor: Julius and Irene Sutto

The Julius & Irene Sutto Student Award for Life Sciences Endowment has been established by gifts from Mr. Sutto in memory of his wife to honor a top student enrolled in the Life Sciences. Mr. Sutto was a member of the Delta College "Committee of 300", considered to be the College's founders, and was employed with the County of Saginaw as its first controller in 1964 and served on the Saginaw County Board of Commissioners. Mrs. Sutto was the first female elected to the Spaulding Township School Board and the Bridgeport-Spaulding School Board, and served in a number of leadership roles. Delta College's Life Sciences includes: Biology Majors, Pre-Biotechnology, Pre-Dentistry, Pre-Dietetics, Pre-Medical Technology, Pre-Medicine, Pre-Mortuary Science, Pre-Occupational Therapy, Pre-Optometry, Pre- Osteopathy, Pre-Pharmacy, Pre-Physical Therapy, Pre-Veterinary Medicine and related medical fields.

Mathematics Award – Sponsor: Jim and Janis Van Tiflin

This award has been established with a gift from Jim and Janis Van Tiflin. Mr. Van Tiflin is a member of the Delta College Foundation Board of Directors and serves as President of Citizens Bank. Mrs. Van Tiflin is a retired medical librarian. Both were born and raised in Saginaw, graduated from Saints Peter and Paul High School and attended Delta College. The Van Tiflins are grateful for the training they received at Delta. The recipient should have a strong academic record in the mathematics curriculum, with a minimum of 12 credits earned in higher level mathematics (Algebra, Calculus, Geometry, and Statistics).

Nursing Award – Sponsor: Frances Goll Mills

This award was established by a gift by the Frances Goll Mills Memorial Fund and recognizes an outstanding graduate in nursing. Mrs. Goll Mills, who passed away in 1982, moved to Saginaw in 1932 from Ohio. She became a well-respected artist in the Mid- Michigan area, having her works displayed at the Detroit Institute of Art, the Saginaw Art Museum and the Saginaw Women's Club. The following programs are considered for this award: Licensed Paramedic to RN, LPN to RN, Nursing, and Pre-Nursing (BSN).

Science Award – Sponsor: Dow Chemical Michigan Operations

This award is sponsored by the Dow Chemical Michigan Operations. Dow Chemical Company is a diversified chemical company that harnesses the power of innovation, science and technology to constantly improve what is essential to human progress. The Company offers a broad range of products and services to customers in more than 175 countries, helping them to provide everything from fresh water, food and pharmaceuticals to paints, packaging and personal care products. Built on a commitment to its principles of sustainability, Dow has annual sales of $49 billion and employs 43,000 people worldwide. The following programs are considered for this award: Chemical Process Technology, Chemical Technology, Environmental Technology Agriculture, Pre-Biotechnology, Chemistry Majors, Conservation, Forestry, Geography, Geology, Natural Resources, and Water Environmental Technology.

Social Science Award- Sponsor: Wesley C. Timm

This award was established in memory of Mr. Timm who was a member of the "Committee of 300", considered to be the founders of Delta College. While he believed strongly in higher education, he was especially proud that nearly two-thirds of Delta's graduates stay in or around the Tri-County area as local residents and tax paying citizens. Mr. Timm was very concerned about the future of the United States, the State of Michigan and the Tri-County area. He had a vision that, in order for the Great Lakes Bay Region (Bay, Midland and Saginaw Counties) to prosper, persons with vision and leadership need to be developed and motivated, and convinced to settle in this area. He believed that Delta College was very capable of training the next generation of leaders for the Great Lakes Bay Region. This award will be presented annually to a student whose performance best shows the potential for future leadership in government, education or business. The student must have taken multiple classes within History, Political Science or Economics, and shall be chosen by a committee consisting of representatives from such disciplines.

Section V

Academic Courses

For New Students:
What Does My COMPASS READING Score Mean?

	Level	COMPASS/ASSET Score	What Course do I Take?
Developmental Education Courses	**Bridge Program Level 0**	**COMPASS 1-35** **ASSET 23-25**	**See Bridge Program Coordinator in D-102**
	Reading Level 1	**COMPASS 36-60** **ASSET 26-34**	**Take RDG 093**
	Reading Level 2	**COMPASS 61-80** **ASSET 35-40** ***SEE NOTE BELOW**	**Take RDG 097** **or** **OAT 095** ***SEE NOTE BELOW**
College-Level Courses	**Reading Level 3**	**Level attained by course grade only.** **NOTE: To take ENG 111A, you must also be in WRITING Level 3 or higher.**	**Take ENG 111A** **NOTE: To take ENG 111A, you must also be in WRITING Level 3 or higher.**
	Reading Level 4	**COMPASS 81-99** **ASSET 41-55** **ACT English 20 or higher** **NOTE: To take ENG 111, you must also be in WRITING Level 4.**	**Take ENG 111** **or** **OAT 151** **NOTE: To take ENG 111, you must also be in WRITING Level 4.**

***IMPORTANT: If you are in Reading Level 2 and Writing Level 3, you may enroll in ENG 111A at the same time as RDG 097. If you are in Reading Level 2 and Writing Level 4, you may enroll in ENG 111 at the same time as RDG 097. However, if you do not get a C or higher in RDG 097, you will remain in Reading Level 2 and this will prevent you from being able to take ENG 112 as well as some other courses.**

For New Students:
What Does My COMPASS WRITING Score Mean?

	Level	COMPASS/ASSET Score	What Course do I Take?
Developmental Education Courses	**Bridge Program Level 0**	**COMPASS 1-15** **ASSET 23-32**	**See Bridge Program Coordinator in D-102**
	Writing Level 1	**COMPASS 16-37** **ASSET 33-34**	**Take WRT 090**
	Writing Level 2	**COMPASS 38-69** **ASSET 35-40**	**Take WRT 098** **or** **OAT 095**
College-Level Courses	**Writing Level 3**	**Level attained by course grade only.** **Note: To take ENG 111A, you must also be in READING Level 2 or higher.***	**Take ENG 111A** **Note: To take ENG 111A, you must also be in READING Level 2 or higher.***
	Writing Level 4	**COMPASS 70-99** **ASSET 41-55** **ACT English 20 or higher** **Note: To take ENG 111, you must also be in READING Level 2 or higher.***	**Take ENG 111** **or** **OAT 151** **Note: To take ENG 111, you must also be in READING Level 2 or higher.***

***IMPORTANT: If you are in Reading Level 2 and Writing Level 3, you may enroll in ENG 111A at the same time as RDG 097. If you are in Reading Level 2 and Writing Level 4, you may enroll in ENG 111 at the same time as RDG 097. However, if you do not get a C or higher in RDG 097, you will remain in Reading Level 2 and this will prevent you from being able to take ENG 112 as well as some other courses.**

For Returning Students Who Took ENG 093, ENG 097, RDG 093, or RDG 097: Now What Course Do I Take?

	Level	My Course Grade	What Course Do I Take?
Developmental Education Courses	**Reading Level 1**	I got a C- or lower in ENG 093 or RDG 093	**Take RDG 093**
	Reading Level 2	I got a C, C+, B-, B, or B+ in ENG 093 or RDG 093 I got a C- or lower in ENG 097 or RDG 097	**Take RDG 097** or OAT 095 *SEE NOTE BELOW
College-Level Courses	**Reading Level 3**	I got an A- in ENG 093 or RDG 093	**Take ENG 111A** NOTE: To take ENG 111A, you must also be in WRITING Level 3 or higher.
	Reading Level 4	I got an A in ENG 093 or RDG 093 I got a C or higher in ENG 097 or RDG 097 I got a C or higher in OAT 095	**Take ENG 111** or OAT 151 NOTE: To take ENG 111, you must also be in WRITING Level 4.

***IMPORTANT: If you are in Reading Level 2 and Writing Level 3, you may enroll in ENG 111A at the same time as RDG 097. If you are in Reading Level 2 and Writing Level 4, you may enroll in ENG 111 at the same time as RDG 097. However, if you do not get a C or higher in RDG 097, you will remain in Reading Level 2 and this will prevent you from being able to take ENG 112 as well as some other courses.**

For Returning Students Who Took ENG 090, ENG 098, WRT 090, or WRT 098: Now What Course Do I Take?

	Level	My Course Grade	What Course Do I Take?
Developmental Education Courses	**Writing Level 1**	I got a C- or lower in ENG 090 or WRT 090	**Take WRT 090**
	Writing Level 2	I got a C, C+, B-, B, or B+ in ENG 090 or WRT 090 I got a C- or lower in ENG 098 or WRT 098	**Take WRT 098** or OAT 095
College-Level Courses	**Writing Level 3**	I got an A- in ENG 090 or WRT 090 I got a C, C+, B-, B, B+ in ENG 098 or WRT 098	**Take ENG 111A** Note: To take ENG 111A, you must also be in READING Level 2 or higher.*
	Writing Level 4	I got an A in ENG 090 or WRT 090 I got an A or A- in ENG 098 or WRT 098 I got a C or higher in OAT 095	**Take ENG 111** or OAT 151 Note: To take ENG 111, you must also be in READING Level 2 or higher.*

***IMPORTANT: If you are in Reading Level 2 and Writing Level 3, you may enroll in ENG 111A at the same time as RDG 097. If you are in Reading Level 2 and Writing Level 4, you may enroll in ENG 111 at the same time as RDG 097. However, if you do not get a C or higher in RDG 097, you will remain in Reading Level 2 and this will prevent you from being able to take ENG 112 as well as some other courses.**

Understanding Levels

If you have not completed an ENG course, see Initial Placement Chart. To view your scores go to "Placement Test Summary" on your MyDelta account

Reading Levels
Effective SP/SU/FALL 2011

Level	Course Grade
Bridge Program →	None
1 →	Enrolled in RDG 093W
2 →	C to B+ in RDG 093W
3 →	A- in RDG 093W
4 →	A in RDG 093W OR C or better in RDG 097W

Writing Levels
Effective SP/SU/FALL 2011

Level	Course Grade
Bridge Program →	None
1 →	Enrolled in WRT 090
2 →	C to B+ in WRT 090
3 →	A- in WRT 090 OR C to B+ in WRT 098
4 →	A in WRT 090 OR A- or better in WRT 098

Reading and Writing Levels - Initial Placement (COMPASS or ACT)

Find your Reading and Writing levels on the sides of this chart. Where they meet are the Reading/Writing/English courses to start with. You do not need to take both courses, but is recommended to fast track to ENG III/IIIA.

Reading (RDG)	W-Level 1 Compass 16-37 ASSET 33-37	W-Level 2 Compass 38-69 ASSET 38-41	W-Level 3 Attained by course grade only	W-Level 4 Compass 70-100 ASSET - 42-55 Act English - 20
R-Level 4 Compass 81-100 ASSET 42-55 Act English - 20 →	**WRT 090** Introduction to Academic Writing	**ENG 098** Preparation for College Writing		**ENG 111** College Composition 1
R-Level 3 Attained by course grade only →				
R-Level 2 Compass 61-80 ASSET 35-41 →	Take **RDG 097W** Academic Reading and **WRT 090** Introduction to Academic Writing	Take **RDG 097W** Academic Reading and **WRT 098** Preparation for College Writing		Take **RDG 097W** Academic Reading and **ENG 111** College Composition 1
R-Level 1 Compass 36-60 ASSET 26-34 →	Take **RDG 093W** and **WRT 090** Introduction to Academic Writing	Take **RDG 093W** Academic Reading and **WRT 098** Preparation for College Writing		**RDG 093W** Effective Reading & Vocab Development

Writing (WRT)

STEPS TO ENG 111 / ENG 111A

Course eligibility is determined by final grade in current Writing and Reading course. You may take a reading and a writing course at the same time to fast track to ENG 111 / ENG 111A.

Writing Level Steps

LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4
WRT 090 Intro. To Academic Writing			
C to B+	**WRT 098** Prep. For College Writing		
A- Must also have **Reading Level 2**	**C to B+** Must also have **Reading Level 2**	**ENG 111A** Writing Methods Composition I	
A Must also have **Reading Level 2**	**A-/A** Must also have **Reading Level 2**	Students **do not** need to complete **both** ENG 111A & ENG 111	**ENG 111** Composition I

Reading Level Steps

LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4
RDG 093W Effective Reading			
C to B+	**RDG 097W** Academic Reading		
A- Must also have **Writing Level 3**	**C or better** Must also have **Writing Level 3**	**ENG 111A** Writing Methods Composition I	
A Must also have **Writing Level 4**	**C or better** Must also have **Writing Level 4**	Students **do not** need to complete **both** ENG 111A & ENG 111	**ENG 111** Composition I

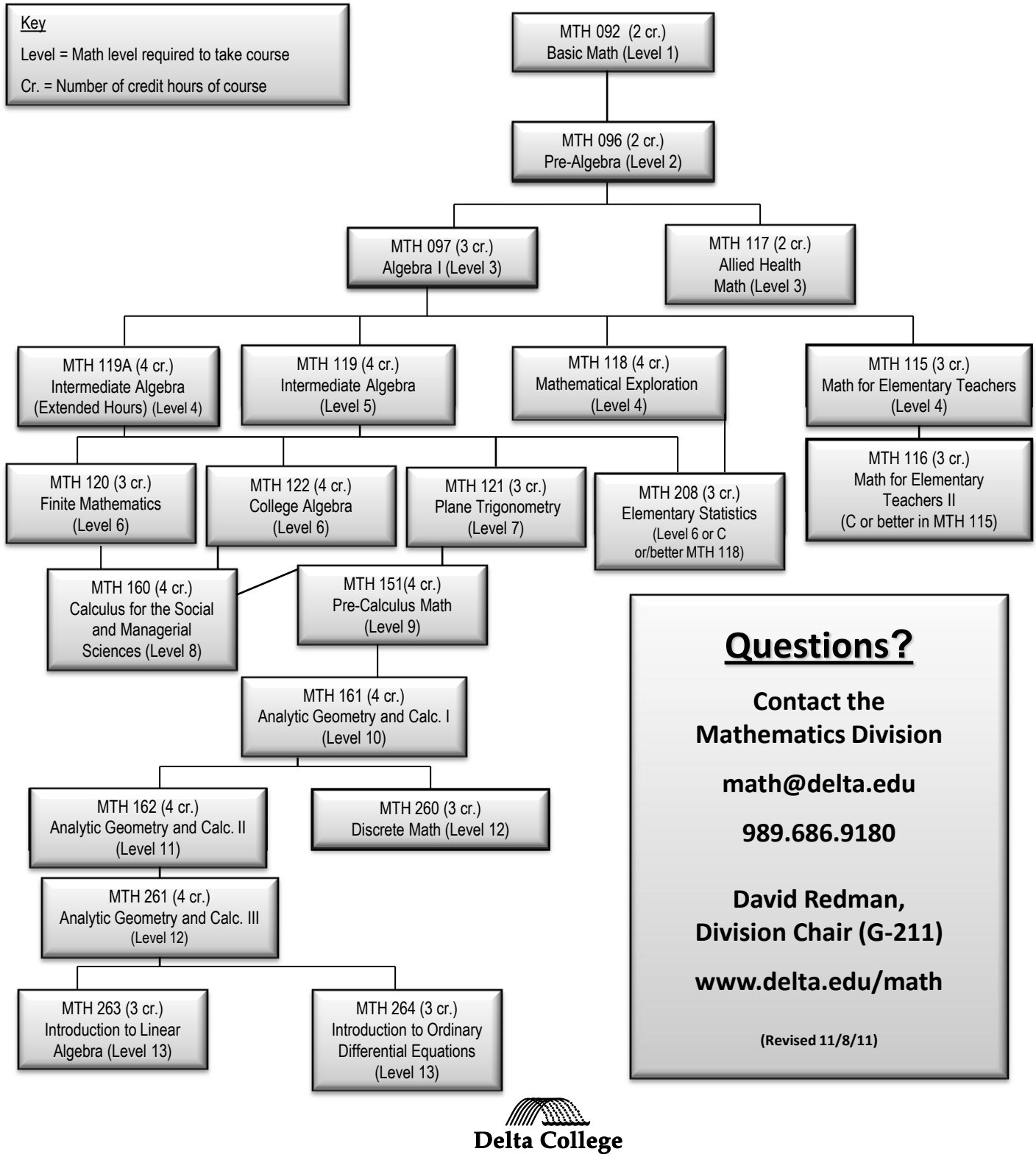
Math Prerequisite Levels

Level	Assessment Scores	OR	Course Grade
1	COMPASS Numerical/Pre-Algebra 18-43 ASSET Numerical/Pre-Algebra 28-40	**OR**	Currently enrolled in MTH 092
2	COMPASS Numerical/Pre-Algebra 44-100 ASSET Numerical/Pre-Algebra 41-55	**OR**	C or better in MTH 092
3	COMPASS Elementary Algebra 13-40 ASSET Elementary Algebra 28-37	**OR**	C or better in MTH 096
4	Level attained by course completion only	**OR**	C or better in MTH 097
5	COMPASS Intermediate Algebra 41-70 ASSET Elementary Algebra 38-55/Intermediate Algebra 31-44 ACT 19	**OR**	B- or better in MTH 097
6	COMPASS Intermediate Algebra 71-100 ASSET Intermediate Algebra 45-55 ACT 21	**OR**	C or better in any MTH 119
7	COMPASS College Algebra 46-100 ASSET College Algebra 43-55 ACT 23	**OR**	C or better in MTH 119
8	COMPASS College Algebra 46-100 ASSET College Algebra 43-55 ACT 23	**OR**	C or better in MTH 120 or MTH 121 or MTH 122 or MTH 151
9	COMPASS Trigonometry 0-45 ACT 25	**OR**	C or better in MTH 121
10	COMPASS Trigonometry 46-100 ACT 27	**OR**	C or better in MTH 151
11	ACT 27	**OR**	C or better in MTH 161
12	ACT 27	**OR**	C or better in MTH 162
13	ACT 27	**OR**	C or better in MTH 261

All levels can also be demonstrated by a satisfactory division pretest score if a student is not satisfied with his/her placement.

If you would like to register for…	You need this math level…
MTH 092	1
MTH 096	2
MTH 097	3
MTH 117	3
MTH 115W	4
MTH 116W	C or better in MTH 115
MTH 118W	4
MTH 119AW	4
MTH 119W	5
MTH 120	6
MTH 122W	6
MTH 208W	6 (or C or better in MTH 118W)
MTH 121	7
MTH 160	8
MTH 151	9
MTH 161	10
MTH 162	11
MTH 260	12
MTH 261	12
MTH 263	13
MTH 264	13

Progressing Through the Mathematics Program at Delta College



eLearning

We're going the distance... so you don't have to.

Students today require learning flexibility…and Delta College is committed to providing you with learning options that fit into your busy life style. The Internet,Virtual Classrooms, and other technologies are making college degrees attainable through eLearning.

The advantages of eLearning courses are convenience and flexibility – not simplicity. Students must be highly motivated and disciplined to be successful in an eLearning course. Successful students communicate with their instructors regularly. Students are highly encouraged to access their virtual course sites and contact their instructors on the start date of the semester.

If you would like to learn more, contact the eLearning Office at 989-686-9088 or by e-mail at *elearning@delta.edu*

Delta College eLearning Course Options:

- **Internet Courses (INET) -** An Internet course is a course designed to deliver 100% of the course material/content, assessments and required online interactive discussions between professor-to-student(s), student-to-professor or student-to-student(s) exclusively through the Internet by a qualified Internet professor. Any assessments requiring proctoring can be conducted at the Delta College Academic Testing Center or any approved off campus sites. Instructors may offer optional face-to-face orientations for students who choose to attend. Some Internet courses may require an additional content fee for access to required online course content.
- **Blended Courses (CNET) –** A Blended course requires both Internet and traditional face-to-face meeting times. The distribution of course material assessments and interactions between professor-to-student(s), student-to-professor, or student-to-student(s) are delivered in a combination of both Internet and face-to-face meeting times that is to be determined by the professor. The syllabus will list the dates for required face-to-face meetings or the instructor will inform the class at the first session according to the date listed on your student schedule. Testing can be done online or in the classroom. Information will be provided in the college syllabus or stated by the instructor.
- **Synchronous Online Courses (SNET) –** A Synchronous online course is delivered entirely over the internet using out-of-classroom technology-based learning, and required online meeting times. The distribution of course material assessments and interactions between professor-to-student(s), student-to-professor, or student-to-student(s) are delivered in a combination of both internet and online meeting times that is to be determined by the professor. The syllabus will list the dates for required online meeting dates and times.

Michigan Community College Virtual Learning Collaborative (MCCVLC) is a collaboration between Michigan community colleges that allow Delta College students to take eLearning courses from other community colleges in Michigan. If a specific course is not available at Delta College, you may find comparable courses through the MCCVLC at www.mccvlc.org. Check with your counselor to make sure the course credit will transfer back to Delta College.

On the Web: *www.delta.edu/elearning*

International Travel/Study Courses

Delta College offers international travel/study courses on an annual basis. These courses are usually offered for four credits which include a combination of lecture and field experience in group international travel; however, since the length of travel time may vary from one to four weeks, the Curriculum Council has approved variable credit, depending on the length of the travel field experience. Consequently, travel/study courses may vary in credits from a minimum of one to a maximum of four. These courses are numbered 268 and may be taken in various disciplines; i.e., BIO 268, ECN 268, SOC 268. The specific country/region of focus will be listed after the course number and title (SOC 268 International Studies: Australia). You may register for only one travel/study course per trip. You should consult a counselor regarding the transferability of total credits earned through international study and travel.

Learning Community Courses

Learning community courses are courses in which:

1. Disciplines are taught together (for example, literature with history, calculus with physics, criminal justice with psychology) so that the connections between them are clear.
2. You can work with other students on activities and projects.
3. You can interact with other students and teachers and be part of a closely-knit, supportive community of learners.
4. You may experience a variety of learning modes such as participating in large and small group discussions, working on activities and projects, taking field trips, and hearing lectures.
5. Students and teachers work closely together, contributing what they already know and seeking new knowledge.
6. You get to express your thoughts and ideas and to hear those of your fellow students.
7. You can gain self-confidence about yourself as a student, a thinker, a reader, a writer, a speaker, a listener.

These courses usually combine two or more different disciplines or areas in order to show the connections between them. They are taught by at least two instructors, each from the different disciplines or areas included in the course. Each semester, Delta College publishes a complete list of learning community courses in the Course Guide booklet.

Independent Study Course Information

Independent Study refers to enrollment in an appropriately-designated, variable-credit course for a specific plan of study, authorized and supervised by a consenting faculty member. Independent Study is not a substitute for regular courses, but an enrichment opportunity. Normally, it is a project designated to allow you to investigate an area of interest not within the scope of a regular course, to probe more in depth than is possible in a regular course, or to obtain an educational experience outside that normally offered by a regular course.

Guidelines for an Independent Study course are:

1. Proposals: The Independent Study project is normally student-initiated. Early interaction with faculty is essential in the development of a mutually-acceptable project description. At a minimum, such a description should contain an outline of the study topic, specification of the work to be done and the materials to be read, the credit to be given, the type and frequency of faculty-student contacts, and a statement of the evaluative criteria to be used by the faculty member.
2. Approval Process: The faculty member must accept and approve the project and then submit the agreed-upon proposal on the appropriate form to the Department Chair for approval. The granting of approval by the Department Chair may involve considerations, such as faculty workload, which go beyond the merits of the project. If the Chair approves, information copies of the form are then submitted to the Academic Dean and Registrar's. The student may register for the project after the authorization form is received by Registrar's.
3. Responsibility: Independent Study is basically a tutorial process, necessarily involving substantial faculty participation. Students are on their own when pursuing an Independent Study, because it involves no class meetings or formal lectures. The faculty member is the responsible custodian of the project, obliged to provide guidance, assistance, criticism, suggestion, and evaluation.
4. Variable Credit: With faculty approval, credit may vary from one to six credits.

Course Abbreviations

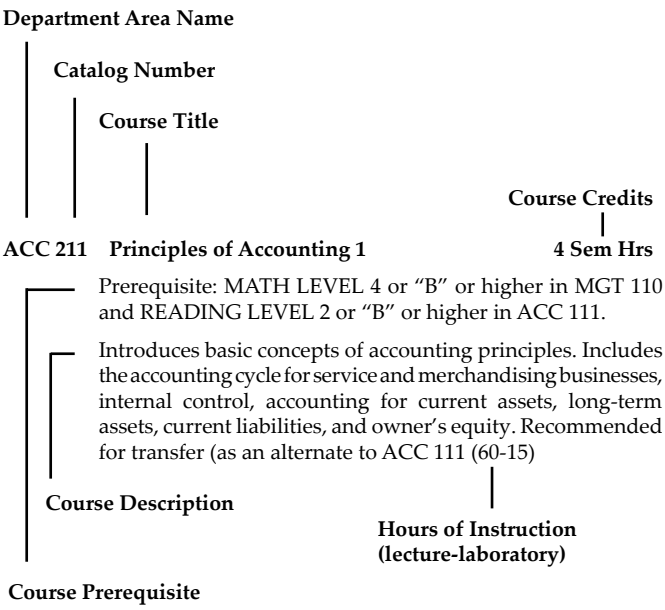
Courses in this section, as well as those on MyDelta search for classes, are listed in alphabetical order by department areas. The department area abbreviation appears on students' official transcripts.

Abbreviation	Department Area	Page
ABS	Applied Behavioral Studies	341
ACC	Accounting	342
ACE	Academic Career Experience (also see CED)	342
AFT	Aviation Flight Technology	344
AGM	Auto Service Education Program (ASEP)	345
ARC	Architectural Technology	346
ART	Art	347
ASL	American Sign Language	349
AST	Astronomy	349
AUT	Automotive Service	349
BIO	Biology	350
CAD	Computer Aided Design	352
CD	Child Development	353
CED	Cooperative Education (also see ACE)	335
CHM	Chemistry	355
CJ	Criminal Justice	356
CNA	Certified Nursing Assistant	358
CNC	Computer Numerical Control	358
COM	Communication	358
CPI	Chemical Process Industries	359
CST	Computer Science & Information Technology	360
CT	Chemical Technology	363
DA	Dental Assisting	363
DH	Dental Hygiene	364
DMS	Diagnostic Medical Sonography	366
DRF	Drafting	367
ECN	Economics	368
ED	Education	368
EDD	Electronic Distribution Design	368
EDU	Education for Professional Development	368
EET	Electronic Engineering Technology	370
EGR	Engineering	370
EM	Electronic Media	371
EMB	Electronic Media Broadcasting	371
EMS	Emergency Medical Service	372
ENG	English	373
ENT	Entrepreneurship	375
ENV	Environmental Science	375
ET	Electrical Technology	376
FR	French	376
FST	Fire Science Technology	377
GE	German	379
GEO	Geography	379
GIS	Geographic Information Systems	380
GLG	Geology	380
HIS	History	381
HSC	Health Science	382
IHU	Interdisciplinary Humanities	382
	Interdisciplinary Science (see SCI)	413
ITE	Industrial Technology Education	384
LEA	Leisure Activity	384
LIB	Library Skills	384
LIT	Literature	384
LSP	Legal Support Professional	386
LW	Lifelong Wellness	387
LWA	Lifelong Wellness Activity	388
LWT	Lifelong Wellness Theory	390
MGT	Management	391
MIT	Manufacturing & Industrial Technology	392
MS	Machine Tool Operations	392
MT	Mechanical Technology	393
MTH	Mathematics	393
MTP	Massage Therapy	395
MUS	Music	395
NPT	Nursing (RN) Part-time	397
NT	Nursing Transition (PN or Paramedic to RN)	398
NUR	Nursing (RN) Full-time	399
OAT	Office Administration & Technology	400
PHL	Philosophy	402
PHM	Pharmacology	403
	Photography (see Art)	347
PHY	Physics	403
PNE	Practical Nursing Education	404
POL	Political Science	404
PSC	Physical Science	405
PSY	Psychology	406
PTA	Physical Therapist Assistant	406
QA	Quality Assurance	408
RAD	Radiography	409
RC	Residential Construction	410
RHA	Refrigeration/Heating & Air Conditioning	411
RT	Respiratory Care	412
SCI	Interdisciplinary Science	413
	Sign Language (American) - (Sec ASL)	349
SK--	Skilled Trades	413
SOC	Sociology	418
	Sonography, Diagnostic Medical (see DMS)	366
SPA	Spanish	419
	Speech (See COM)	358
SSI	Social Science Interdisciplinary	420
ST	Surgical Technology	421
TTI	Technical Trades Interdisciplinary	421
WELD	Welding Engineering Technology	422
WET	Water Environment Technology	422
WTT	Wind Turbine Technology	423

Course Information

Courses listed in this section are those which Delta College is approved to offer; however, inclusion of a course does not obligate the College to offer the course in any particular semester or year. Most of the courses listed will be offered at least once during a complete academic year. Course offerings are listed on MyDelta search for classes in late January for the Spring/Summer and Fall Semesters, and by late September for the Winter Semester. **Courses in this section, as well as on MyDelta, are listed in alphabetical order by department name according to three or four character course numbers.**

An Example


Department Area Name
Catalog Number
Course Title
Course Credits
ACC 211 Principles of Accounting 1 4 Sem Hrs
Prerequisite: MATH LEVEL 4 or "B" or higher in MGT 110 and READING LEVEL 2 or "B" or higher in ACC 111.
Introduces basic concepts of accounting principles. Includes the accounting cycle for service and merchandising businesses, internal control, accounting for current assets, long-term assets, current liabilities, and owner's equity. Recommended for transfer (as an alternate to ACC 111 (60-15)
Course Description
Hours of Instruction (lecture-laboratory)
Course Prerequisite

Course Credits

1. Each course is assigned a number of credits which generally indicates the number of hours per week the course meets. Courses with labs and occupational courses, however, generally meet more hours than the number of credits they carry.
2. Tuition rates are assessed on a per-credit-hour basis, and vary depending on your residency classification. Total tuition for each course must be paid at registration time.

Course Descriptions

1. Below each course number and title, a brief course description is provided. You should read this description carefully to be sure you are qualified to take the course and that the course content meets your needs and interests. If you need additional information, you may contact the Chair of the Division which offers the course or the course instructor.
2.. Instructors often give supplemental course information (i.e., course outline, syllabus, tasks and competencies, etc.), during the first week of classes, so students will know specific course procedures, grading criteria, and course objectives. Circumstances such as illness, inclement weather, class composition and size, or the introduction of timely material may necessitate some adjustments. The College recognizes the right of the faculty member to exercise professional judgment in making such adjustments.

Hours of Instruction

The numbers given within parentheses at the end of each course description indicate the total number of hours each course will be scheduled within a semester. The first number specifies total lecture hours and the second number specifies total laboratory or clinical hours for the course.

Course Numbering System

All Delta College academic courses have a three to five character course number. MyDelta Search for Classes, which is available online prior to each semester, lists courses in alphabetical order by subject area name according to these course numbers.

1. Courses below 100 are considered developmental and do not meet graduation requirements.
2. Courses within the 100-199 series generally represent freshman-level courses; however, these courses may also be taken by sophomores.
3. Courses within the 200-389 series are intended primarily for sophomores; however, these courses may be taken by freshmen having the necessary prerequisites.
4. Courses within the 290-299 series designate special courses as follows: 291 Independent Study (arranged on an individual basis between student and faculty member; see Independent Study Course Information in this section); 292-299 Special Topics/Seminars (such courses will be offered as regular courses upon demand or to meet the special needs of some programs, except ACE courses).

Course Designations

Courses designated by an "H" (for Honors), "C" (for courses that require co-registration in another course), and "W" (for Writing), are considered course variations of a regular course and incorporate the same course content. Course variations are considered equal in meeting graduation requirements and prerequisites. Lab courses designated by an "L" are *not* considered a course variation.

Honors

Honors courses incorporate all regular course content with greater emphasis on enrichment and becoming actively involved in the learning process. You learn and apply diverse concepts while stressing creative and critical thinking. You will be expected to be more self-directed with a goal of understanding the theoretical base of the subject matter. Honors courses and Honors Options are designated on your transcript with an "+" designation. Honors students who meet certain eligibility criteria will be assigned priority registration. See *www.delta.edu/honors* for eligibility information.

Course Prerequisites

Prerequisites listed at the beginning of course descriptions are courses which must be taken or skill levels which must be met before enrolling in the course. Skill levels are demonstrated by either assessment scores or course grades according to the following tables. Some prerequisites are not computer-enforced, but may be enforced at the discretion of the division.

A Bachelor's Degree from a regionally accredited institution meets prerequisites which require College Composition II. Official transcripts must be provided to the Delta College Registrar's Office.

Applied Behavior Studies

ABS 101W College Success 2 Sem Hrs
Explores academic skills and strategies needed for college-level learning and success. Examines effective personal attributes/behaviors, available college resources, and general expectations of college professors and courses. Practices engagement in the greater campus culture and recognition of the value of learning beyond the classroom. Assists in the identification of individual strengths and the creation of a personal plan for reaching college goals using information from the course. Encourages writing, as a reflective practice, to enhance learning. (30-0)

ABS 200W Career Decision Making 1 Sem Hr
Prerequisite: READING LEVEL 3 or WRITING LEVEL 2. Develops student ability to make career choices by focusing on the steps in the career decision making process (Self Awareness, Career Awareness, Decision Making, and Creating a Plan). Investigates personal values, skills, interests and abilities and explores a variety of careers using campus resources. Assists in matching personal characteristics with careers and creating a plan of action to accomplish short- and long-range career goals while working in a cooperative, respectful group atmosphere. Encourages writing, as a reflective practice, to enhance learning. Credit may be earned in ABS 103 or ABS 200 but not both. (15-0)

ABS 201W Employability Skills for Success 1 Sem Hr
Prerequisite: READING LEVEL 3 and WRITING LEVEL 3. Develops skills in identifying students' job-related abilities and attitudes; locating leads in the job market; writing resumes and cover letters; completing applications, and interviewing. Encourages writing, as a reflective practice, to enhance learning. Credit may be earned in ABS 201 or ABS 102, but not both. (15-0)

ABS 290-299 Special Projects in Applied Behavioral Science

Accounting

ACC 111 Introductory Accounting 4 Sem Hrs
Practices basic accounting procedures including journalizing, posting, preparation of financial statements, special journals, subsidiary ledgers, petty cash fund, bank reconciliation, and payroll accounting. Requires completion of a practice set. Transfer students should take ACC 211. Not recommended to take ACC 111 if credit has already been earned in ACC 211(60-0).

ACC 121 Accounting for Managers 4 Sem Hrs
Develops ability to use accounting information in planning, evaluating and decision-making as a business manager. This course is appropriate for students in business, trades, and dual-degree programs. Transfer students should take ACC 211. (60-0)

ACC 211 Principles of Accounting I 4 Sem Hrs
Prerequisite: MATH LEVEL 4 or "B-" or higher in MGT 110, and READING LEVEL 3. Introduces basic concepts of accounting principles. Includes the accounting cycle for service and merchandising businesses, internal control, accounting for current assets, long-term assets, current liabilities, and owner's equity. Recommended for transfer (as an alternative to ACC 111). (60-15)

ACC 212 Principles of Accounting II 4 Sem Hrs
Prerequisite: ACC 211 with a C (2.0) minimum grade. Includes a study of corporation basic theory and methodology, statement of cash flows, accounting for manufacturing operations, and accounting data as used in performance measurement, decision making, planning, and control. (60-15)

ACC 214 Microcomputer Accounting Applications 4 Sem Hrs
Prerequisite: CST 133 with a "C" or better and ACC 211 with a "C" or better. Introduces microcomputer applications in general ledger, accounts receivable, accounts payable, payroll, and inventory/invoicing. Develops electronic spreadsheet applications using appropriate software. Outside laboratory assignments are required. (60-0)

ACC 215W Federal Tax Accounting 3 Sem Hrs
Prerequisite: ACC 212. Studies the Federal income tax law. Emphasizes core income tax principles and relates them to individual and business entity applications. Includes preparation of individual and business entity tax returns. (45-0)

ACC 216W Volunteer Income Tax Assistance (VITA) 2 Sem Hrs
Prerequisite: MATH LEVEL 4 and READING LEVEL 3. Provides instruction in preparation of federal, state, and local individual income tax returns and uses practical experience in the preparation of these returns. Provides service to qualifying citizens within the tri-county district by preparing tax forms and filing electronically. Requires 30 hours of service-learning. (30-30)

ACC 227W Intermediate Accounting I 4 Sem Hrs
Prerequisite: ACC 212 with a "C" (2.0) minimum grade or equivalent. Includes a study of accounting processes, theory, and principles. Includes financial statement presentation, revenue recognition, evaluation of current assets, property plant and equipment, intangible assets, and time value of money. Designed for transfer. (60-0)

ACC 228W Intermediate Accounting II 4 Sem Hrs
Prerequisite: ACC 227W with a "C" (2.0) minimum grade or equivalent. Presents accounting for current liabilities, stockholders' equity, EPS, income taxes, pensions, leases, long-term liabilities, and the statement of cash flows. Designed for transfer. (60-0)

ACC 229W Practical Intermediate Accounting 4 Sem Hrs
Prerequisite: ACC 214 and ACC 227W with a "C" (2.0) minimum grade. Presents accounting for assets, liabilities, and equity through practical application. Focuses on supporting schedules and reconciliation of the items in the financial statements. Opportunities are provided to practice quality internal control procedures. (60-0)

ACC 230 Operational Business Taxes 3 Sem Hrs
Prerequisite: ACC 214 and ACC 227W with a "C" (2.0) minimum grade. Provides practical training regarding various federal, state, and local operational business taxes. Focuses on filing requirements and completion of appropriate forms through use of technology. (45-0)

ACC 233 Cost Accounting 3 Sem Hrs
Prerequisite: ACC 212 with a C (2.0) minimum grade. Relates principles and methods of handling materials, labor costs, and manufacturing expenses to the formulation of reports to management. Includes job order, process, standard, direct and budgetary costing procedures. (45-0)

ACC 235 Financial Management 3 Sem Hrs
Prerequisite: ACC 212 with a C (2.0) minimum. An introduction to the basic concepts of financial management. Includes goals and functions of financial management, financial forecasting, leverage, working capital management, time value of money, stock and bond valuation, cost of capital, capital budgeting, and concept of risk. (45-0)

ACC 285 Professional Accounting Careers 2 Sem Hrs
Prerequisite: ACC 214 and ACC 227 both with a minimum C grade or permission of instructor. Includes development of a career portfolio to illustrate professionalism and accounting skills. Uses technology to research and analyze topics including accounting careers, certifications, and job search preparation, as well as issues related to current accounting topics. Recommended to be taken in the last semester of a student's accounting program. (30-0)

ACC 290-299 Special Projects in Accounting Sem Hr

Academic Career Experience

ACE 105W Year I Experience I - Business & Human Services 3 Sem Hrs
Prerequisites: (1) Majoring in business, computer & information sciences, administrative support, social & human services, public safety services, media production, or similar program of study, (2) Employed in a major-related position, and (3) Completed the program application process in the Office of Academic Career Experience (Cooperative Education) and Experiential Learning. Introduces course planning and goal setting. Provides opportunities for team building. Introduces electronic portfolio to manage academic and career information. Emphasizes the necessity of maintaining this living collection of credentials. Evaluates the student in a program-related, supervised worksite. For successful completion, a grade of at least a B must be earned in both this course and its associated work experience. A final grade of F will be assigned in both course and work experience if either is not successfully completed. (15-180)

ACE 106W Year I Experience II - Business & Human Services 3 Sem Hrs
Prerequisites: (1) ACE 105 with a grade of B or better, (2) Majoring in business, computer & information sciences, administrative support, social & human services, public safety services, media production or similar program of study, and (3) Employed in major-related position. Continues from Year I Experience I with additional responsibilities at the worksite. Explores work cultures and diversity. Includes development of professional written employment application materials. Continues development of electronic portfolio. Practices and develops soft skills necessary in the workplace. The employer/site supervisor and the college coordinator make evaluations. For successful completion, a grade of at least a B must be earned in both this course and its associated work experience. A final grade of F will be assigned in both course and work experience if either is not successfully completed. (15-180)

ACE 110W Year I Experience I - Communications & Sciences 3 Sem Hrs
Prerequisites: (1) Majoring in communications, social sciences, science, or similar program of study, (2) Employed in a major-related position, and (3) Completed the program application process in the Office of Academic Career Experience (Cooperative Education) and Experiential Learning. Introduces course planning and goal setting. Provides opportunities for team building. Introduces electronic portfolio to manage academic and career information. Emphasizes the necessity of maintaining this living collection of credentials. Evaluates the student in a program-related, supervised worksite. For successful completion, a grade of at least a B must be earned in both this course and its associated work experience. A final grade of F will be assigned in both course and work experience if either is not successfully completed. (15-180)

ACE 111W Year I Experience II - Communications & Sciences 3 Sem Hrs
Prerequisites: (1) ACE 110 with a grade of B or better, (2) Majoring in communications, social sciences, science, or similar program of study, and (3) Employed in major-related position. Continues from Year I Experience I with additional responsibilities at the worksite. Explores work cultures and diversity. Includes development of professional written employment application materials. Continues development of electronic portfolio. Practices and develops soft skills necessary in the workplace. The employer/site supervisor and the college coordinator make evaluations. For successful completion, a grade of at least a B must be earned in both this course and its associated work experience. A final grade of F will be assigned in both course and work experience if either is not successfully completed. (15-180)

ACE 115W Year I Experience I - Health Science 3 Sem Hrs
Prerequisites: (1) Majoring in nursing, dental/diagnostic/therapeutic technologies, or similar program of study, (2) Employed in a major-related position, and (3) Completed the program application process in the Office of Academic Career Experience (Cooperative Education) and Experiential Learning. Introduces course planning and goal setting. Provides opportunities for team building. Introduces electronic portfolio to manage academic and career information. Emphasizes the necessity of maintaining this living collection of credentials. Evaluates the student in a program-related, supervised worksite. For successful completion, a grade of at least a B must be earned in both this course and its associated work experience. A final grade of F will be assigned in both course and work experience if either is not successfully completed. (15-180)

ACE 116W Year I Experience II - Health Science 3 Sem Hrs
Prerequisites: (1) ACE 115 with a grade of B or better, (2) Majoring in nursing, dental/diagnostic/therapeutic technologies, or similar program of study, and (3) Employed in major-related position. Continues from Year I Experience I with additional responsibilities at the worksite. Explores work cultures and diversity. Includes development of professional written employment application materials. Continues development of electronic portfolio. Practices and develops soft skills necessary in the workplace. The employer/site supervisor and the college coordinator make evaluations. For successful completion, a grade of at least a B must be earned in both this course and its associated work experience. A final grade of F will be assigned in both course and work experience if either is not successfully completed. (15-180)

ACE 120W Year I Experience I - Technical & Industrial 3 Sem Hrs
Prerequisites: (1) Majoring in design technologies, mechanical trades/ services, construction/electric trades, or similar program of study, (2) Employed in a major-related position, and (3) Completed the program application process in the Office of Academic Career Experience (Cooperative Education) and Experiential Learning. Introduces course planning and goal setting. Provides opportunities for team building. Introduces electronic portfolio to manage academic and career information. Emphasizes the necessity of maintaining this living collection of credentials. Evaluates the student in a program-related, supervised worksite. For successful completion, a grade of at least a B must be earned in both this course and its associated work experience. A final grade of F will be assigned in both course and work experience if either is not successfully completed. (15-180)

ACE 121W Year I Experience II - Technical & Industrial 3 Sem Hrs

Prerequisites: (1) ACE 120 with a grade of B or better, (2) Majoring in design technologies, mechanical trades/services, construction/electric trades, or similar program of study, and (3) Employed in major-related position. Continues from Year I Experience I with additional responsibilities at the worksite. Explores work cultures and diversity. Includes development of professional written employment application materials. Continues development of electronic portfolio. Practices and develops soft skills necessary in the workplace. The employer/site supervisor and the college coordinator make evaluations. For successful completion, a grade of at least a B must be earned in both this course and its associated work experience. A final grade of F will be assigned in both course and work experience if either is not successfully completed. (15-180)

ACE 205W Year II Experience I - Business & Human Services 2 Sem Hrs

Prerequisites: (1) ACE 106 with a grade of B or better, (2) Majoring in business, computer & information sciences, administrative support, social & human services, media production or similar program of study, and (3) Employed in a major-related position. Continues from Year I Experience II with additional responsibilities at the worksite. Provides further opportunity to produce and exchange professional communications and demonstrate continuous improvement in professional skill sets. Continues development of electronic portfolio. The employer/site supervisor and the college coordinator make evaluations. For successful completion, a grade of at least a B must be earned in both this course and its associated work experience. A final grade of F will be assigned in both course and work experience if either is not successfully completed. (7.5 - 180)

ACE 206W Year II Experience II - Business & Human Services 2 Sem Hrs

Prerequisites: (1) ACE 205 with a grade of B or better, (2) Majoring in business, computer & information sciences, administrative support, social & human services, public safety services, media production or similar program of study, and (3) Employed in a major-related position. Continues from Year II Experience I with additional responsibilities at the worksite. Provides further opportunity to practice and exchange professional communications and demonstrate continuous improvement in professional skill sets. Continues development of electronic portfolio. The employer/site supervisor and the college coordinator make evaluations. For successful completion, a grade of at least a B must be earned in both this course and its associated work experience. A final grade of F will be assigned in both course and work experience if either is not successfully completed. (7.5 - 180)

ACE 210W Year II Experience I - Communications & Sciences 2 Sem Hrs

Prerequisites: (1) ACE 111 with a grade of B or better, (2) Majoring in communications, social sciences, science, or similar program of study, and (3) Employed in a major-related position. Continues from Year I Experience II with additional responsibilities at the worksite. Provides further opportunity to produce and exchange professional communications and demonstrate continuous improvement in professional skill sets. Continues development of electronic portfolio. The employer/site supervisor and the college coordinator make evaluations. For successful completion, a grade of at least a B must be earned in both this course and its associated work experience. A final grade of F will be assigned in both course and work experience if either is not successfully completed. (7.5 - 180)

ACE 211W Year II Experience II - Communications & Sciences 2 Sem Hrs

Prerequisites: (1) ACE 210 with a grade of B or better, (2) Majoring in communications, social sciences, science, or similar program of study, and (3) Employed in a major-related position. Continues from Year II Experience I with additional responsibilities at the worksite. Provides further opportunity to practice and exchange professional communications and demonstrate continuous improvement in professional skill sets. Continues development of electronic portfolio. The employer/site supervisor and the college coordinator make evaluations. For successful completion, a grade of at least a B must be earned in both this course and its associated work experience. A final grade of F will be assigned in both course and work experience if either is not successfully completed. (7.5 - 180)

ACE 215W Year II Experience I - Health Science 2 Sem Hrs

Prerequisites: (1) ACE 116 with a grade of B or better, (2) Majoring in nursing, dental/diagnostic/therapeutic technologies or similar program of study, and (3) Employed in a major-related position. Continues from Year I Experience II with additional responsibilities at the worksite. Provides further opportunity to produce and exchange professional communications and demonstrate continuous improvement in professional skill sets. Continues development of electronic portfolio. The employer/site supervisor and the college coordinator make evaluations. For successful completion, a grade of at least a B must be earned in both this course and its associated work experience. A final grade of F will be assigned in both course and work experience if either is not successfully completed. (7.5 - 180)

ACE 216W Year II Experience II - Health Sciences 2 Sem Hrs

Prerequisites: (1) ACE 215 with a grade of B or better, (2) Majoring in nursing, dental/diagnostic/therapeutic technologies or similar program of study, and (3) Employed in a major-related position. Continues from Year II Experience I with additional responsibilities at the worksite. Provides further opportunity to practice and exchange professional communications and demonstrate continuous improvement in professional skill sets. Continues development of electronic portfolio. The employer/site supervisor and the college coordinator make evaluations. For successful completion, a grade of at least a B must be earned in both this course and its associated work experience. A final grade of F will be assigned in both course and work experience if either is not successfully completed. (7.5 - 180)

ACE 220W Year II Experience I - Technical & Industrial 2 Sem Hrs

Prerequisites: (1) ACE 121 with a grade of B or better, (2) Majoring in design technologies, mechanical trades/services, construction/electric trades, or similar program of study, and (3) Employed in a major-related position. Continues from Year I Experience II with additional responsibilities at the worksite. Provides further opportunity to produce and exchange professional communications and demonstrate continuous improvement in professional skill sets. Continues development of electronic portfolio. The employer/site supervisor and the college coordinator make evaluations. For successful completion, a grade of at least a B must be earned in both this course and its associated work experience. A final grade of F will be assigned in both course and work experience if either is not successfully completed. (7.5 - 180)

ACE 221W Year II Experience II - Technical & Industrial 2 Sem Hrs
Prerequisites: (1) ACE 220 with a grade of B or better, (2) Majoring in design technologies, mechanical trades/services, construction/electric trades, or similar program of study, and (3) Employed in a major-related position. Continues from Year II Experience I with additional responsibilities at the worksite. Provides further opportunity to practice and exchange professional communications and demonstrate continuous improvement in professional skill sets. Continues development of electronic portfolio. The employer/site supervisor and the college coordinator make evaluations. For successful completion, a grade of at least a B must be earned in both this course and its associated work experience. A final grade of F will be assigned in both course and work experience if either is not successfully completed. (7.5 - 180)

ACE 280W Internship: Technology Management 1 Sem Hr
Prerequisites: (1) Majoring in construction management, industrial supervision, manufacturing industrial technology, or lean manufacturing, (2) employed in a major-related placement, and (3) completed the program application process in the Office of Academic Career Experience (Cooperative Education) and Experiential Learning. Integrates, reinforces, and documents the student's academic studies with related career experience of at least 180 hours at an approved worksite. Evaluations are made by the employer/site supervisor and the college coordinator. (0-180)

ACE 285W Internship: Design Technology 1 Sem Hr
Prerequisites: (1) Majoring in architectural technology, CAD, residential construction, RHA, CNC technology, mechanical engineering technology, machine tool, manufacturing/welding engineering technology or similar program of study, (2) employed in a major-related placement, and (3) completed the program application process in the Office of Academic Career Experience (Cooperative Education) and Experiential Learning. Integrates, reinforces, and documents the student's academic studies with related career experience of at least 180 hours at an approved worksite. Evaluations are made by the employer/site supervisor and the college coordinator. (0 - 180)

ACE 290-299 Special Projects in Academic Career Experience N/A Sem Hrs

Aviation Flight Technology

AFT 101 Private Pilot Ground Training 4 Sem Hrs
Provides the basic principles of the aeronautical knowledge necessary to meet the requirements for a Private Pilot - Airplane Knowledge Exam. Includes principles of aerodynamics, airplane performance, airplane instruments, engines, and systems, airports and Air Traffic Control, weight and balance calculations, weather, Federal Aviation Regulations, aeronautical navigation charts and navigation, and principles of flight physiology. (60-0)

AFT 105 Primary Pilot Flight Training I 2 Sem Hrs
Prerequisite: Completion of or concurrent enrollment in AFT 101 and coordinator permission. Provides knowledge, skills, and aeronautical experience necessary to met the requirements for solo flight. Includes flight training for the following procedures and maneuvers: proper flight preparations procedures, taxiing or surface operations, takeoffs and landings, straight-and-level flight and turns, climbs and climbing turns, airport traffic patterns, collision avoidance, winds hear avoidance, and wake turbulence avoidance, descents, flight at various airspeeds, stall entries from various flight attitudes and power combinations, emergency procedures, ground reference maneuvers, approaches to a landing area with simulated engine malfunctions, slips to a landing, and go-arounds. A written exam must be completed and reviewed by the instructor before authorization to conduct a solo flight can be given. Special fees for flight instruction and aircraft rental must be paid by students. (20-50)

AFT 106 Primary Pilot Flight Training II 3 Sem Hrs
Prerequisite: AFT 105 with a "C" (2.0) minimum grade and coordinator permission. Provides knowledge, skills, and aeronautical experience necessary to meet the requirements for the FAA Practical Test Standards-Private Pilot Airplane Single-engine land. Includes pilotage and dead reckoning, navigation systems and radar services, diversions, and lost procedures, and cross-country flights, night preparation, night takeoffs and landings, and night cross-country flight and high performance takeoffs and landings. (20-25)

AFT 201W Instrument Pilot Ground Training 4 Sem Hrs
Prerequisite: AFT 101 or equivalent and coordinator permission. Prepares students for Federal Aviation Administration Instrument-Rating-Airplane knowledge test leading to the addition of an instrument rating to a Private or Commercial Pilot Airman Certificate. Emphasizes airplane instruments, air traffic control, Federal Aviation Regulations, instrument flight operations, en route and approach charts, and IFR trip planning and navigation, aviation weather, and flight physiology. (60-0)

AFT 202 Aviation Meteorology 2 Sem Hrs
Focuses on fundamental weather processes impacting aviation. Includes sources for weather data important for flight planning including text observations and forecasts, graphical charts and analyses, and radar. Emphasizes weather-related hazards to aviation including thunderstorms. (30-0)

AFT 210 Commercial Pilot Ground Training 4 Sem Hrs
Prerequisite: AFT 101 with a "C" (2.0) grade minimum or equivalent and coordinator permission. Prepares students for Federal Aviation Administration Commercial Pilot knowledge test required for a Commercial Pilot Airman Certificate. Includes airplanes and aerodynamics, airplane performance, aircraft instruments, engines and systems, airports, airspace and Air Traffic Control, weight and balance computations, meteorology, Federal Aviation Regulations, navigation, flight physiology, and commercial flight operations. (60-0)

AFT 215 Advanced Pilot Flight Training I 2 Sem Hrs
Prerequisite: AFT 106 with a "C" (2.0) minimum grade, previous or concurrent enrollment in AFT 201 and coordinator permission. Provides student with a foundation in attitude instrument flight and instrument navigation. Prepares student for introduction of Instrument Flight Rules (IFR) enroute procedures by performing simulated instrument approaches and holding patterns. Special fees for flight instruction and aircraft rental must be paid by students. (30-26)

AFT 216 Advanced Pilot Flight Training II 3 Sem Hrs
Prerequisite: AFT 215 with a "C" (2.0) minimum grade and coordinator permission. Provides instruction in Instrument Flight Rules (IFR) enroute procedures with Air Traffic Control to attain proficiency level of Instrument Rated Pilot. Provides knowledge, skills, and aeronautical experience necessary to meet the requirements for the FAA Practical Test Standards - Instrument Pilot Airplane. Special fees for flight instruction and aircraft rental must be paid by students. (25-20)

AFT 217 Advanced Pilot Flight Training III 2 Sem Hrs
Prerequisite: AFT 106 with a "C" (2.0) minimum grade and coordinator permission. Includes extensive review and practice in Visual Flight Rules (VFR) cross-country procedures and maximum performance maneuvers. Special fees for flight instruction and aircraft rental must be paid by students. (35-34)

AFT 218 Advanced Pilot Flight Training IV 3 Sem Hrs
Prerequisite: AFT 217 with a "C" (2.0) minimum grade and coordinator permission. Develops night orientation, night cross-country procedures, complex airplane operations and precision flight maneuvers to Commercial Pilot standards. Provides knowledge, skills, and aeronautical experience necessary to meet the requirements for the FAA Practical Test Standards - Commercial Pilot Airplane. Special fees for flight instruction and aircraft rental must be paid by students. (25-25)

AFT 290-299 Special Projects in Aviation Sem Hr

Auto Serv Educ Asep

AGM 110 Automotive Electronics Service 4 Sem Hrs
Introduces the operation, maintenance, and service of battery, charging, starting systems and GM electrical and electronic systems. Credit may be earned in AGM 110 or ACD 110 or SKGM 110 or AGM 131 but not in more than one. (40-40)

AGM 112W Engine Service 6 Sem Hrs
Introduces the operation, maintenance, and service of GM engines for mechanical performance. Stresses proper repair techniques and diagnosis of engine noises. Credit may be earned in AGM 112 or ACD 112 or SKGM 112 or AGM 141 but not in more than one. (45-75)

AGM 114 Brakes, ABS, TCS Service 5 Sem Hrs
Introduces the operation, maintenance, and service of GM base brakes, anti-lock and traction control. Presents general auto lab equipment operation and stresses safety. Credit may be earned in AGM 114 or ACD 114 or SKGM 114 or AGM 132 but not in more than one. (40-60)

AGM 134 Dealership Work Experience I 2 Sem Hrs
Provides work experience in the operation, maintenance, and service of GM base brakes, engine mechanical and electrical systems particularly battery, charging and starting systems. Stresses general auto lab equipment operation and safety. Credit may be earned in AGM 134 or ACD 134 but not in both. (6-600)

AGM 142 Electronic Engine and Emission Controls Service 9 Sem Hrs
Prerequisite: AGM 112. Introduces the operation, maintenance, and service of GM engines for drivability performance. Stresses proper repair techniques and diagnosis of engine drivability problems. Credit may be earned in AGM 142 or SKGM 142 or ACD 142 but not in more than one. (81-144)

AGM 143 Dealership Work Experience II 2 Sem Hrs
Prerequisite: AGM 134. Provides work experience in the operation, maintenance, and service of GM steering/suspension and drivability performance. Stresses basic spark, fuel, and emission control systems. (6-600)

AGM 210 Body Electronics Service 3 Sem Hrs
Prerequisite: AGM 110. Stresses the operation, diagnosis, and service of GM body electrical and electronics systems. Credit may be earned in AGM 210 or SKGM 210 or ACD 210 or AGM 241, but not in more than one. (30-30)

AGM 212W Suspension System Service 7 Sem Hrs
Introduces the operation, maintenance, and service of GM steering and suspension systems. Credit may be earned in AGM 212 or SKGM 212 or ACD 212 or AGM 133 but not in more than one. (56-84)

AGM 214 Heating/Air Conditioning 5 Sem Hrs
Prerequisite: AGM 143. Introduces the operation, maintenance, and service of GM Heating, Ventilation, and Air Conditioning systems and their controls. Credit may be earned in AGM 214 or SKGM 214 or ACD 214 or AGM 233, but not in more than one. (50-50)

AGM 216 Driveline Service 6 Sem Hrs
Prerequisite: AGM 143. Studies GM passenger car and light truck clutch, manual transmission, driveshaft, differential, transaxle, front driving axle, and transfer case terminology, operation, and diagnosis. Develops skills in diagnosis, adjustment, and repair of clutches, manual transmissions, driveshafts, differentials, transaxles, front driving axles, and transfer cases. Credit may be earned in AGM 216 or SKGM 216 or ACD 216 or AGM 231 but not in more than one. (60-60)

AGM 218W Automatic Electronic Transmission Service 8 Sem Hrs
Prerequisite: AGM 143. Introduces the operation, maintenance, and service of GM electronically controlled transmissions. Credit may be earned in AGM 218W or SKGM 218W or ACD 218W or AGM 232, but not in more than one. (80-100)

AGM 226 Advance Engine Electronics & Fuel System Service (GM) 7 Sem Hrs
Prerequisites: Minimum "C" (2.0) grade in AGM 112. Studies electronic inputs to the computerized engine controls; units of instruction necessary to develop a thorough understanding of induction systems and injection systems. Develops skills through controlled learning experiences with sensors, fuel delivery, and fuel injection systems. (60-90)

AGM 228W Electronic Engine Performance & Emission Control 7 Sem Hrs
Prerequisite: Minimum "C" (2.0) grade in AGM 112. Studies units of instruction necessary for a thorough understanding of ignition systems, emission control systems, and driveability diagnosis. Develops skills through controlled learning experiences with ignition systems, emission control systems, and driveability diagnosis. (60-90)

AGM 234 Dealership Work Experience III 2 Sem Hrs
Prerequisite: AGM 143. Provides work experience in the operation, maintenance, and service of GM manual and automatic heating, ventilation and air conditioning systems, automatic transmissions, and drivelines. Stresses proper handling of refrigerant and safety. (6-600)

AGM 238 GM Information Systems 2 Sem Hrs
Develops skills to use the current operating system on a computer. Introduces essential elements of computerized automotive technical support systems. Credit may be earned in CST 238 or AGM 238, but not both. (30-0)

AGM 290-299 Special Projects in Auto Service Education

Architecture Technology

ARC 101 Materials and Methods of Construction 3 Sem Hrs
Introduces basic construction materials; properties, recommended use, space requirements, methods of finishing, building code implications, and energy conservation applications. (45-0)

ARC 105 Architectural Drafting I 4 Sem Hrs
Teaches fundamentals of architectural drafting including linework emphasis, lettering design, symbol applications, multiview projections relative to architectural drawings, one point perspective, two point perspective, graphic design elements, and presentation of floor plans, sections and elevations. Studies space requirements and method or representing basic residential elements. Includes demonstrations and instruction in basic procedures of CAD. (45-45)

ARC 106 Architectural Drafting II 4 Sem Hrs
Prerequisite: ARC 105 or permission of instructor. Introduction to construction drawing organization. Development of coordinated drawings for one small building with emphasis on application of notes, dimensions, and development of graphic skills. Includes a study of CAD techniques and the use of the computer for drawing production, storage and retrieval, development of selected architectural details relating to foundation, floor, wall, and roof assemblies, with emphasis on energy conservation. (45-45)

ARC 111 Mechanical and Electrical Systems for Buildings 3 Sem Hrs
Fundamentals and operating principles of air conditioning, plumbing, and electrical systems; including typical layout, calculations, sizing, and methods of installation. Credit may be earned in ARC 111 or RC 206 but not in both. (45-0)

ARC 114 Architectural AutoCAD 2D Basics 3 Sem Hrs
Prerequisites: ARC 105; or DRF 121; or SKDR 101; or permission of instructor. CST 103 suggested or basic knowledge of the Windows Operating System. Introduces 2D and 3D CAD drawing, including basic drawing and editing commands. Studies CAD systems interface, hardware, a current operating system, file management techniques, creating templates, creating and modifying geometry, dimensions and text styles, block and external reference insertion, attributes and creating tables, model space/paper space layouts, rendering and plotting techniques. Students may receive credit in only one of the following: ARC 114, CAD 114, or SKCA 114. (45-15)

ARC 118 AutoCAD Applications 3 Sem Hrs
Prerequisite: ARC 114. Uses and expands on commands learned in ARC 114, AutoCAD Basics. Accomplishes this through the development of various additional working drawings such as elevations, sections and details. (45-0)

ARC 204 Estimating Building Construction 3 Sem Hrs
Prerequisite: MATH LEVEL 4, ARC 101 and RC 101. Introduces methods and procedures commonly used in determining the costs of construction materials. (45-0)

ARC 205 Architectural Drafting III 3 Sem Hrs
Prerequisite: ARC 106. Develops construction documents for a non-residential building. Introduces concrete, masonry, and steel construction with their various detailing requirements, symbolisms, and characteristics utilized in installation of mechanical and electrical systems. Includes a study of computer-aided design examples. (15-90)

ARC 206 Architectural Drafting IV 3 Sem Hrs
Prerequisite: ARC 205. Develops sketches into preliminary and construction drawings. Uses CAD for design and drafting examples and production. Continues the design and drafting of concrete, masonry, and steel construction. Integrates structural, mechanical, electrical, and solar strategies into commercial buildings. (15-90)

ARC 211 Elements of Structural Design 2 Sem Hrs
Prerequisite: MATH LEVEL 4. Bridges the gap of understanding between engineering and building contractors. Identifies the weights of construction materials. Analyzes loads, stresses, and deflections of beams, floor joists, roof trusses and columns. Provides basic design experience in wood, steel, and concrete. (30-0)

ARC 214 Architectural AutoCAD 3D Basics 3 Sem Hrs
Prerequisites: ARC 114, or CAD 114, or a working knowledge of AutoCAD and permission of the instructor. Introduces construction of 3D parametric architectural models using BIM (building information modeling) software --interface, menus, toolbars and editing. Covers creating and managing project files and sheets, using a template, using basic linework and modeling tools, adding annotations and dimensions to models, loading and using 3D architectural components from online sources, and printing methods to produce construction documents. Includes generating plan, elevation, section views and schedules from the architectural model, using rendering tools to set up camera views and creating photo-realistic renderings. Introduces analysis software. (45-0)

ARC 221 Site Preparation 3 Sem Hrs
Prerequisite: MATH LEVEL 4. Studies fundamentals of site analysis, including utility services, metes and bounds, solar access and restrictions. Teaches elements of surveying including use of instruments, leveling, measurement of angles and distances, contours, location of site elements and development of a site plan from field data. Interprets engineering surveys, introduces landscape design, and studies computer aided design examples. Credit may be earned in ARC 221 or SKCT 105 but not in both. (45-0)

ARC 224 Building Information Modeling 3 Sem Hrs
Prerequisites: ARC 105 and ARC 214; or permission of instructor. Requires a basic knowledge of a Windows Operating System. Continues work with modeling software to successfully and efficiently produce building information models. Uses the entire software platform, while moving through a building project, in the design integration of the following building disciplines: Architectural, Interior Design, Structural, Mechanical, Plumbing and Electrical. Includes the generation of plans, elevations, section views and schedules. (45-0)

ARC 290-299 Special Projects in Architectural Technology

ARC 314 Architectural Rendering Basics 3 Sem Hrs
Prerequisite: ARC 214 or working knowledge of AutoCAD and permission of the instructor. Introduces 3D studio VIZ rendering mechanisms/ AutoCAD rendering mechanisms. Operates camera angles, creates light sources, digital materials and applies existing digital materials to 3D model from ARC 214. Introduces rendering techniques in both 3D studio VIZ and AutoCAD. Renders bitmap image for final class project. Continues, from ARC 214, to next logical sequential rendering level. (45-0)

Art

ART 105 Art Experience 3 Sem Hrs
Designed for non-Art & Design majors. Provides an enriching experience in basic studio art and art appreciation. (30-30)

ART 107 Elements of Photography 3 Sem Hrs
Designed for non-Art and Design majors. Introduces technical operation of the camera. Emphasizes image construction, image production, and critical analysis of image aesthetics. Credit may be earned in ART 100 or ART 107, but not both. (30-30)

ART 111 Drawing I 3 Sem Hrs
Introduces techniques in various drawing media and concepts in visual art with emphasis in drawing from observation. (0-90)

ART 112 Drawing II 3 Sem Hrs
Prerequisite: ART 111. Continues the exploration of formal aspects of visual art with emphasis placed on articulating a personal response to various drawing problems. Practices drawing techniques and processes at the intermediate level using a variety of drawing media. (0-90)

ART 113 Art Education 3 Sem Hrs
Prerequisites: READING LEVEL 2 and WRITING LEVEL 3. Develops the ability to stimulate children's creative interests. Acquaints the student with a variety of teaching methods and materials appropriate to child development. (45-45)

ART 115 Two-Dimensional Design 3 Sem Hrs
Explores basic two-dimensional design elements such as: line, form, space, value, texture and color. Employs a variety of media to develop a basic design vocabulary. (30-60)

ART 116 Three-Dimensional Design 3 Sem Hrs
Prerequisite: ART 111 and ART 115. Examines a series of three-dimensional design/spacial composition problems using a variety of basic materials. (30-60)

ART 151HW Art History and Appreciation I - Honors 3 Sem Hrs
Prerequisites: READING LEVEL 4 and WRITING LEVEL 2 and permission of the Honors Office. Required of all first-year art majors. Surveys Western art from Prehistoric times to the Renaissance. Deals with major works and artists of the Prehistoric, Ancient, Classical and Medieval cultures. Emphasizes the architecture and sculpture of these periods. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in ART 151 or ART 151HW but not in both (45-0).

ART 151W Art History and Appreciation I 3 Sem Hrs
Prerequisites: READING LEVEL 2 and WRITING LEVEL 3. Required of all first-year Art & Design majors. Surveys Western art and architecture from Prehistoric through Early Renaissance eras. Focuses on architecture, sculpture, and painting from Prehistoric, Ancient Egyptian, Ancient Greek and Roman, Early Christian, art of the Middle Ages, and Early Renaissance master pieces. Credit may be earned in ART 151W or ART 151HW, but not both. (45-0)

ART 152W Art History and Appreciation II 3 Sem Hrs
Prerequisites: READING LEVEL 3 or a minimum grade of "C" (2.0) in any approved college level composition I course. ART 151W is highly recommended. Required of all first-year Art & Design majors. Examines the history of Western modern art. Renaissance through contemporary periods. Emphasizes painting, sculpture, and architecture. (45-0)

ART 201 Introduction to Graphic Design 3 Sem Hrs
Prerequisite: ART 115 with a grade of "C" or higher. Introduces the fundamental principles, practices, and software of current creative industries. Identifies, applies, and practices design foundations through a survey of common creative industry assignments introducing basic standard software program techniques. Credit may be earned in ART 201 or ART 171 but not both. (0-90)

ART 210 Figure Drawing 3 Sem Hrs
Prerequisite: ART 111. Introduces drawing of the human figure in pictorial space. Emphasizes in-depth awareness of the body's underlying geometry and anatomical structure working with live model. (0-90)

ART 217 Painting I 3 Sem Hrs
Prerequisites: ART 112, ART 115. Identifies, demonstrates, and discusses painting concepts and techniques. Interprets and analyzes various processes from traditional to contemporary painting styles. (0-90)

ART 218 Painting II 3 Sem Hrs
Prerequisite: ART 217. Discusses relevant classical, modern and contemporary painting concepts and techniques. Constructs paintings based on self-devised painting styles and methods. Analyzes critically and defends individual painting portfolio. (0-90)

ART 219 Watercolor 3 Sem Hrs
Prerequisites: Art 111, Art 115. Introduces fundamental watercolor painting concepts, techniques and materials. Surveys various processes from traditional to contemporary with an emphasis placed on articulating a personal response to various painting problems (0-90)

ART 220 Mural Painting 3 Sem Hrs
Prerequisites: ART 112 and ART 115 both with a grade of "C" or better. Introduces techniques in mural painting with an emphasis on community involvement. (0-90)

ART 222 Sculpture 3 Sem Hrs
Prerequisite: ART 116. Identifies, demonstrates and discusses sculptural concepts and techniques. Interprets and analyzes various processes from traditional to contemporary sculptural styles. Employs a variety of sculptural methods using a variety of sculptural media to produce sculpture. (0-90)

ART 224 Photography 3 Sem Hrs
Prerequisites: ART 112, ART 115. Identifies, demonstrates, and discusses photographic concepts and techniques. Interprets and analyzes various processes from traditional to contemporary photographic styles. Employs concurrent technologies. Credit may be earned in only one of ART 101, ART 206, or ART 224. (30-60)

ART 231 Ceramics I 3 Sem Hrs
Prerequisites: ART 116. Identifies, demonstrates, and discusses basic clay hand building techniques and surface design. Interprets and analyzes various processes of traditional and contemporary ceramic styles. Employs a variety of methods to produce ceramic vessels and objects. (0-90)

ART 232 Ceramics II 3 Sem Hrs
Prerequisite: ART 231. Identifies, demonstrates, and discusses wheel throwing and clay mold making techniques. Generates complex ceramic surface design. Interprets and analyzes various traditional and contemporary ceramic processes. Employs a variety of methods to produce a portfolio of ceramic vessels and objects. (0-90)

ART 241 Graphics Studio 1 3 Sem Hrs
Prerequisites: ART 112 and ART 115 both with a grade of "C" or higher. Introduces digital photography manipulation software. Identifies and applies basic to advanced image manipulation techniques through projects relevant to current graphic design and photography industries. Credit may be earned in ART 241 or ART 171 but not both. (0-90)

ART 242 Graphics Studio 2 3 Sem Hrs
Prerequisites: ART 112 and ART 115 both with a grade of "C" or better. Introduces digital illustration and page layout software. Identifies and applies vector illustration and page layout techniques to projects relevant to digital illustration and page layout design industries. Credit may be earned in only one of: ART 242; ART 240; or both ART 276 and ART 277. (0-90)

ART 243 Graphics Studio 3 3 Sem Hrs
Prerequisites: ART 241 and ART 242 both with a grade of "C" or better. Introduces the foundations of web design. Identifies and applies basic HTML and CSS code through web design software to projects relevant to the current trends in the web design industry. Credit may be earned in ART 243 or ART 279 but not both.(0-90)

ART 251W Architectural History 3 Sem Hrs
Prerequisite: READING LEVEL 3 and WRITING LEVEL 3. Examines the historical development of architecture as a major art form. Emphasizes this development in relation to man's knowledge of building techniques and available materials as affected by geographic, economic, political, and religious influences. (45-0)

ART 255W Contemporary Art History 3 Sem Hrs
Prerequisite: READING LEVEL 3 and WRITING LEVEL 3; or any ENG Composition I course with a grade of "C" or higher; or ART 152W with a grade of "C" or higher. Examines Contemporary Art using contemporary theoretical methods. Engages in readings, discussions, and written analysis of globally recognized artists, artworks, and stylistic trends. (45-0)

ART 256W Art History Travel 3 Sem Hrs
Prerequisites: Completion of any ENG Composition I course with a grade of "C" or higher; or ART 152W with a grade of "C" or higher. Examines art from major collections in specified locale. Provides opportunity for travel, engagement in related readings, and a variety of discussions on artworks, relevant museum(s), and historical contexts. Includes written formal analysis using contemporary theoretical methods. Expenses for travel are the responsibility of the student. (45-0)

ART 262 Art and Design Internship 1-3 Sem Hrs
Prerequisites: Second year art student with minimum of a 2.5 GPA and instructor approval. The internship opportunity provides hands-on work experience in an off-site professional Art or Design business, company, gallery, museum, or organization. Requires 2 hours per week per credit hour under direct supervision of onsite internship coordinator. (30-60-90)

ART 280 Printmaking 3 Sem Hrs
Prerequisites: ART 112 and ART 115 both with a grade of "C" or better. Explores various traditional and contemporary printmaking methods and techniques to produce prints. Employs concurrent technologies such as block printing press and digital imaging methods. (0-90)

ART 283 Multimedia Authoring 3 Sem Hrs
Prerequisite: ART 271 and ART 277. Presents the practice and production of digital multimedia technology and movie-making (primarily) through the use of Macromedia Director software. Concentrates on the combined and individual creation of interactive movies, sound, animation, game design, marketing presentations, simulations, kiosks and full-scale multimedia productions. (30-60)

ART 284 Typography 3 Sem Hrs
Prerequisite: ART 242 with a grade of "C" or higher. Provides an introduction to the fundamental aspects of typography. Identifies and applies the history of typography, vocabulary terms, and foundational typography techniques to a survey of typography design assignments. (0-90)

ART 285 Interactive Design 3 Sem Hrs
Prerequisite: ART 243, or both ART 201 and CST 210; all with a grade of "C" or better. Introduces fundamental interactive web design techniques and advanced web development software.(0-90)

ART 286 Digital Animation 3 Sem Hrs
Prerequisites: ART 241 and ART 242 both with a grade of "C" or higher. Introduces the fundamentals of digital animation. Identifies and applies various digital animation techniques to a survey of projects using industry standard digital animation software. (0-90)

ART 289 Portfolio 3 Sem Hrs
Prerequisites: ART 112 and ART 116 AND ART 152W. Completes a portfolio package for both school applications and job applications. Credit may be earned in only one of ART 288, ART 289 or IHU 289. (0-90)

ART 290-299 Special Projects in Art Sem Hr

American Sign Language

ASL 111 American Sign Language I 3 Sem Hrs
Prerequisites: READING LEVEL 3 and WRITING LEVEL 3. Introduces American Sign Language, the language of many deaf or hearing impaired individuals. Identifies grammatical and syntactic structure of ASL. Demonstrates receptive and expressive ASL language. Conducts class in ASL. Emphasizes full immersion where nonverbal communication will be practiced. (45-0)

ASL 112 American Sign Language II 4 Sem Hrs
Prerequisites: ASL 111 with a minimum grade of C, or permission of ASL coordinator. Continues study of ASL expanding upon knowledge, grammar, skills and vocabulary. Continues study of ASL receptive and expressive skills. Uses full immersion in classroom, and nonverbal communication will be practiced. (60-0)

ASL 113 American Sign Language Fingerspelling A 1 Sem Hr
Introduces the smallest meaningful units of American Sign Language. Focuses on fingerspelling as a part of the communication process of American Sign Language in order to recognize and generate hand shapes and numbers used in American Sign Language. Addresses expressive and receptive skills. (15-0)

ASL 114 American Sign Language Fingerspelling B 1 Sem Hr
Prerequisite: ASL 113. Continues practice of the smallest meaningful units of American Sign Language. Focuses on fingerspelling as a part of the communication process of American Language in order to recognize hand shapes and numbers used in American Sign Language. Expands the ability to generate ASL hand shapes and numbers when prompted and within the appropriate context. Addresses expressive and receptive skills. (15-0)

ASL 116 Sign for Religion 1 Sem Hr
Prerequisite: ASL 111 or equivalent. Offers additional receptive and expressive sign language vocabulary and concepts specific to church and temple. (15-0)

ASL 200W Deaf Culture 3 Sem Hrs
Studies the Deaf community and culture. Addresses a broad array of topics, including history, rules for social interaction, group norms, identity, language and values. Discusses Deaf perspective and its interface with the hearing culture. (45-0)

ASL 211 American Sign Language III 4 Sem Hrs
Prerequisite: ASL 112 with a minimum grade of C, or permission of ASL coordinator. Builds upon previous knowledge and skills in ASL emphasizing expressive skills. Participates in class in ASL. Emphasizes full immersion where nonverbal communication is practiced. (60-0)

ASL 212 American Sign Language IV 4 Sem Hrs
Prerequisites: ASL 211 with a minimum grade of C, or permission of ASL coordinator. Provides opportunity to develop and refine advanced skills and fluency in ASL. Conducts class in ASL. Emphasizes full immersion where nonverbal communication will be praticed.(60-0)

ASL 290-299 Special Projects in American Sign Language

Astronomy

AST 111 Introduction to Astronomy 3 Sem Hrs
Familiarizes the student with the origin, characteristics, and evolution of the solar system, the stars, the galaxies, and the universe. Emphasizes the way in which our understanding of the universe has changed. (45-0)

AST 111L Astronomical Investigation 1 Sem Hr
Prerequisite: PHY 100 or AST 111, but not both, or concurrent enrollment. Includes experimental design to investigate such events as the night sky, planetary motion, and astronomical laws. Explores use of telescopes and spectroscopes in establishing the relationship among planets in the solar system, star distances, and stellar life cycles. (0-30)

AST 290-299 Special Projects in Astronomy Sem Hr

Auto Service

AUT 100 Introduction to Automotive Service 3 Sem Hrs
Introduces the Automotive Service facility, basic tools and equipment, service publications, safety practices, the automobile, its components, and professionalism. Concentrates on terminology and general component operation. (30-25)

AUT 108 Introductory Automotive Electronics 3 Sem Hrs
Studies automotive electrical and electronic fundamentals, magnetism, and electrical test equipment, terminology, operation, and diagnosis. Develops skills in establishing an electrical base for advanced electrical/electronic courses and in controlled learning experiences with basic electricity and electronics using meters and test equipment. (35-25)

AUT 110 Automotive Electronics Service 4 Sem Hrs
Prerequisite: WELD 101 and WELD 108; also Minimum C (2.0) grade in both AUT 100 and AUT 108. Studies electrical test equipment, battery, wiring diagram, starting and charging system terminology, operation, and diagnosis. Develops skills in diagnosis of battery, diagnosis and repair of starting and charging systems and application of wiring diagrams. (40-40)

AUT 112W Engine Service 6 Sem Hrs
Prerequisite: Minimum C (2.0) grade in both AUT 100 and AUT 108. Studies automotive gasoline engines, terminology, operation, and diagnosis. Develops skills in controlled learning experiences on laboratory engine assemblies. (45-75)

AUT 114 Brake System Service 5 Sem Hrs
Prerequisite: Minimum C (2.0) grade in both AUT 100 and AUT 108. Studies drum, disc, hydraulic, power assist, antilock terminology, operation, and diagnosis. Develops skills on drum, disc, hydraulic, power assist, and antilock brake systems. (40-60)

AUT 210W Body Electronics Service 3 Sem Hrs
Prerequisite: AUT 100 and AUT 108 with a minimum grade of "C" (2.0).. Studies body wiring diagrams, operation and location of electrical devices. Develops skills in the diagnosis of malfunctions within accessory and convenience circuits. (30-30)

AUT 212W Suspension System Service 7 Sem Hrs
Prerequisite: AUT 100 and AUT 108 with a minimum grade of "C" (2.0). Studies frame, steering, and suspension system terminology, operation, and diagnosis. Develops skills in frame, unibody, steering, suspension, four wheel drive and four wheel alignment. (56-84)

AUT 214W Heating/Air Conditioning Service 5 Sem Hrs
Prerequisite: AUT 100 and AUT 108 with a minimum grade of "C" (2.0). Studies passenger car and light truck heating and air conditioning terminology, operation and diagnosis. Develops skills in diagnosis and repair of the heating and air conditioning system components. (50-50)

AUT 216 Driveline Service 6 Sem Hrs
Prerequisite: WELD 101 and WELD 108; also Minimum "C" (2.0) grade in both AUT 112 and 212. Studies passenger car and light truck clutch, manual transmission, driveshaft, differential, transaxle, front driving axle, and transfer case terminology, operation, and diagnosis. Develops skills in diagnosis, adjustment, and repair of clutches, manual transmissions, driveshafts, differentials, transaxles, front driving axles, and transfer cases. (60-60)

AUT 218W Automatic Electronic Transmission Service 8 Sem Hrs
Prerequisites: Minimum "C" (2.0) grade in both AUT 112 and AUT 212. Studies passenger car and light truck automatic transmission terminology, operation, and diagnosis. Develops skills in diagnosis, adjustment, and repair of passenger car and light truck rear wheel drive and front wheel drive automatic transmissions. Credit may be earned in AUT 122 or AUT 218 but not in both. (80-100)

AUT 226 Advance Engine Electronics & Fuel System Service 7 Sem Hrs
Prerequisites: Minimum "C" (2.0) grade in AUT 110, AUT 210, and AUT 112. Studies electronic inputs to the computerized engine controls; units of instruction necessary to develop a thorough understanding of induction systems and injection systems. Develops skills through controlled learning experiences with sensors, fuel delivery, and fuel injection systems. Credit may be earned in AUT 220 and AUT 222 or AUT 226 but not in both. (60-90)

AUT 228W Electronic Engine Performance & Emission Control 7 Sem Hrs
Prerequisite: Minimum "C" (2.0) grade in AUT 110, AUT 112 and AUT 210. Studies units of instruction necessary for a thorough understanding of ignition systems, emission control systems, and driveability diagnosis. Develops skills through controlled learning experiences with ignition systems, emission control systems, and driveability diagnosis. Credit may be earned in AUT 224 or AUT 228 but not in both. (60-90)

AUT 239 Automotive Service Information Systems 1 Sem Hr
Develops skills to use the current operating system on a computer and to learn navigational skills for the aftermarket automotive service information systems. (5-15)

AUT 252 Automotive Performance Fundamentals 5 Sem Hrs
Prerequisite: Minimum C (2.0) grade in both AUT 100 and AUT 108. Teaches high performance aspects of automotive engines, engine support systems, drivetrains, suspension and safety. (47-28)

AUT 261 Auto Service Skills Internship I 1 Sem Hr
Prerequisites: Michigan Mechanic Training Permit. Provides work experience in the operation, maintenance, and service of customer vehicles in a licensed repair facility. Emphasizes the areas of engine, suspension, brake, and electrical repairs. (0-150)

AUT 262 Auto Service Skills Internship II 1 Sem Hr
Prerequisite: Michigan Mechanic Training Permit. Provides work experience in the operation, maintenance, and service of customer vehicles in a licensed repair facility. Emphasizes areas of drivelines, automatic transmission, HVAC, suspension, and electrical repair. (0-150)

AUT 290-299 Special Projects in Automotive Service

Biology

BIO 101W Introduction to Anatomy And Physiology 4 Sem Hrs
An introduction to basic human anatomy and physiology taught in a lecture-demonstration format. Includes basic principles of the structures and functions of the human body and the terminology related to these topics. (60-0)

BIO 110W Environmental Science 4 Sem Hrs
Surveys the broad field of environmental science using local, regional, and global examples. Includes the following major topics: the scientific method, an introduction to chemistry, ecological principles, types of pollutants, energy principles, population issues, the environmental impact of human choices, and the role of economics, risk perception, and political choices in environmental decision-making. Exposes students to a variety of field, survey, and laboratory techniques useful in assessing environmental quality. (45-45)

BIO 111HW Principles of Biology - Honors 4 Sem Hrs
Prerequisite: READING LEVEL 4 and WRITING LEVEL 2 and permission of the Honors Office. Introduces the fundamental concepts underlying biology and the relevance of these concepts to the student as a member of our global society. Includes the basic chemistry of the cell, cell structure and metabolism, molecular biology, genetics, the origin and evolution of living things, and ecological principles. Applicable as science lecture and laboratory credit for non-majors. Not appropriate for biology majors. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may earned in BIO 111W or BIO 111HW but not in both. (45-45)

BIO 111W Principles of Biology 4 Sem Hrs
Introduces the fundamental concepts underlying biology and the relevance of these concepts to the student as a member of our global society. Includes the basic chemistry of the cell, cell structure and metabolism, molecular biology, genetics, the origin and evolution of living things, and ecological principles. Applicable as science lecture and laboratory credit for non-majors. Not appropriate for biology majors. Credit may be earned in BIO 111W or BIO 111HW but not in both. (45-45)

BIO 113 Trees and Shrubs Of Michigan 1 Sem Hr
Identification of the Michigan trees and shrubs indigenous to the Saginaw Valley. Methods used in this field course include use of the leaf, bark, twig, flower and silhouette. Historical and practical information presented as appropriate. (15-0)

BIO 114 Animal Behavior - The Wolf 1 Sem Hr
Designed to provide student with introduction to study of animal behavior with focus on the wolf. Topics covered will include development of behavior patterns, social behavior, effects of imprinting, role of pheromones in sexual behavior, and hunting behavior. Student will prepare ethogram comparing different subspecies and various breeds of dogs. A weekend field trip is required with student paying own expenses. (15-0)

BIO 114A Animal Behavior - Dolphin 1 Sem Hr
Provides an introduction to the student of dolphin behavior dolphin. Includes study of basic animal physiology, colony and pair dynamics, behavior modification and training, maternity behavior, basic conservation issues, habitat ecology, and natural history. Includes field activities involving observational and hands-on activities during a field trip at student's expense. (15-0)

BIO 116W Winter Ecology 2 Sem Hrs
Explores the adaptations and coping behaviors of organisms and communities to the additional stresses placed on them by winter. Includes such major topics as: weather and climate, hibernation, freezing avoidance, community changes, and behavior of animals. Includes identification of plants, animal tracks, insect galls, bird nests, and various kinds of snow conditions. Requires a weekend field trip. Student must pay own expenses. (30-0)

BIO 117 Birds of Michigan 1 Sem Hr
Identification of resident and migratory birds by sight and song. Includes bird nesting, feeding and territorial behavior. Taught primarily in the field. (15-0)

BIO 118 Michigan Wildflowers 1 Sem Hr
Identification of common seasonal wildflowers of the open field and deciduous woods. Includes ecological significance of major families of flowers. Historical and practical information presented when appropriate. Taught primarily in the field. (15-0)

BIO 119 Stream Ecology 1 Sem Hr
Introduces the physical environmental factors that affect organisms inhabiting streams as well as the human influence. Emphasizes the energy flow through stream ecosystems along with the lifecycles and interdependencies of stream animals. Includes fieldwork on at least four different kinds of streams. Includes a weekend field trip with the student paying own expenses. Credit may be earned BIO 119 or 219 but not both. (15-0)

BIO 123 Survey of Michigan Plant Communities 2 Sem Hrs
Discusses the influence of physical factors on the varieties of plant communities. Uses the interdependency of organisms as an underlying theme. Examines effects of humans on the nature of plant communities. Emphasizes fieldwork and use of field keys and reference materials for plant identification. Taught primarily in the field. Requires a weekend field trip. (30 - 0)

BIO 126 Ecology and Natural History of Isle Royale National Park 1 Sem Hr
Introduces a remote area of ecosystems. Discusses key native and introduced species of plants and animals. Emphasizes the uniqueness, yet interdependency of organisms. Highlights the long-studied island Wolf-Moose interaction. Requires a three-day trip to the island at student expense. (15-0)

BIO 126AW Ecology and Natural History of the Appalachia Region 1 Sem Hr
Prerequisite: Requires concurrent enrollment in LEA 213. Introduces a unique area of ecosystems. Discusses key native and introduced species of plants and animals. Emphasized keystone species and interdependency of organisms. Highlights the Riparian Flora and Fauna, including the reintroduced red wolf species. Requires a three day trip to the Appalachian area at student's expense. (15-0)

BIO 130W Introduction to Chemistry and Cell Biology 3 Sem Hrs
Prerequisite: READING LEVEL 4. Introduces the principles and concepts of chemistry and cell biology for students entering allied health curricula. Includes basic math for science, the laws of thermodynamics, theory of atomic structure, chemical bonding, acids, bases, and buffers; introduction to organic chemistry, cell structure and function, basic metabolic pathways, mitosis, meiosis, classical and physiological genetics. Recommended as a preparatory class for BIO 140 and BIO 152 for students with limited background in cell biology and/or chemistry. (30-30)

BIO 140W Essentials Of Human Anatomy & Physiology 5 Sem Hrs
Prerequisite: MATH LEVEL 3 or MTH 117 and READING LEVEL 4. Introduces the basic principles and concepts of chemistry, biochemistry and cell biology, as well as human anatomy and physiology for students entering certain allied health curricula. Includes structures and functions of the human body and related terminology. (75-45)

BIO 152W Human Anatomy & Physiology I 4 Sem Hrs
Prerequisites: MATH LEVEL 3 or MTH 117 and READING LEVEL 4. Recommended: BIO 130 or high school chemistry. Prepares you for various allied health and nursing professions as first course of two semester sequence. Provides an introduction to the basic principles of chemistry and biochemistry as they relate to human physiology. Gives major consideration to the anatomy and physiology of cells and tissues and the following systems: skeletal, muscle, nervous, and endocrine. (45-45)

BIO 153W Human Anatomy & Physiology II 4 Sem Hrs
Prerequisite: BIO 152 with a "C" (2.0) minimum grade or BIO 140 with a "B" (3.0) minimum grade. BIO 153 is a continuation of BIO 152. Investigates the anatomy and physiology of the following systems: circulatory, lymphatic, respiratory, digestive, urinary, and reproductive. Includes human developmental biology and fluids and electrolytes. (45-45)

BIO 160AW Human Anatomy & Physiology Review 1 Sem Hr
Prerequisites: BIO 140 or BIO 153 with a "C" (2.0) minimum grade. Provides review and update of contents of cardiovascular system from BIO 140 or BIO 153 using cooperative learning found in Health Care Team concept. Focuses on developing and strengthening abilities in critical thinking, problem solving, and student directed learning. (15-0)

BIO 160BW A & P Case Studies 2 Sem Hrs
Prerequisites: BIO 140 or BIO 153 or BIO 241 with a "C" (2.0) minimum grade. Provides comprehensive review and updates of contents of human anatomy and physiology using case studies of six different body systems (cardiovascular/respiratory/nervous/digestive/renal/endocrine). Focuses on developing critical thinking, problem solving, and student directed learning while establishing mastery of material. (30-0)

BIO 171 Integrated General Biology I 4 Sem Hrs
Prerequisite: CHM 111 with a grade of C or higher, or approval of instructor. Studies the scientific method, diversity of life with emphasis on biochemistry, cell structure and function, bioenergetics and metabolism, molecular, Mendelian and developmental genetics. (45-45)

BIO 172W Integrated General Biology II 4 Sem Hrs
Prerequisite: Successful completion, with a minimum grade of C (2.0), of both high school chemistry and high school biology or CHM 101 and BIO 111. BIO 172 is one of two introductory courses for biology majors and related fields. Together, BIO 171 and BIO 172 constitute a complete introduction to college level biology. These courses may be taken in any order regardless of the course numbers. Includes a survey of the five kingdoms with emphasis on comparative anatomy, development and ecological roles, evolutionary patterns, population genetics, embryology behavior and ecology. (45-45)

BIO 199 Human Heredity And Sexuality 4 Sem Hrs
Prerequisites: High School biology and chemistry. Introduces the fundamental concepts underlying biology with a focus on heredity and sexuality. Includes cell biology, inborn errors of metabolism, reproduction and development, immunology and HIV/AIDS, oncogenes and cancer, plus classical, population and molecular genetics. Explores the frontiers of health and medicine including reproductive technologies, biotechnology, gene therapy, prenatal diagnosis, genetic screening and the bioethics of the Human Genome Project. Includes case study analysis and laboratory investigations related to cellular and population genetics and biotechnology. Credit may be earned in BIO 199 or BIO 199H but not in both. (45-45)

BIO 199H Human Heredity And Sexuality - Honors 4 Sem Hrs
Prerequisites: LEVEL 4 READING and LEVEL 2 WRITING and permission of the Honors Office. Introduces the fundamental concepts underlying biology with a focus on heredity and sexuality. Includes cell biology, inborn errors of metabolism, reproduction and development, immunology and HIV/AIDS, oncogenes and cancer, plus classical, population and molecular genetics. Explores the frontiers of health and medicine including reproductive technologies, biotechnology, gene therapy, prenatal diagnosis, genetic screening and the bioethics of the Human Genome Project. Includes case study analysis and laboratory investigations related to cellular and population genetics and biotechnology. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in BIO 199 or BIO 199H but not in both. (45-45)

BIO 203W General Microbiology 4 Sem Hrs
Prerequisites: BIO 130 or BIO 140 or BIO 152 or BIO 171, or BIO 241 each requiring a "C" (2.0) minimum grade or successful completion of the BIO 130 competency exam. Surveys the microorganisms associated with infectious diseases, including the bacteria, viruses, fungi, and protozoa's. Emphasizes the health care aspects and the distribution and activities of microbes as related to the following: microbial nutrition and anatomy, growth, disease, epidemiology, infection and immunity. Uses labs that stress aseptic techniques and that develop skills necessary to handle microbes in health care settings, including the characterization of unknown microbes. (45-45)

BIO 219 Stream Ecology: Aquatic Macroinvertebrate Research 2 Sem Hrs
Introduces the physical environmental factors that affect organisms inhabiting streams as well as human influences on streams. Emphasizes the energy flow through stream ecosystems along with the lifecycles and interdependencies of stream animals. Includes fieldwork on at least four different kinds of streams. Emphasizes interrelationships of macroinvertebrate communities within specific stream ecosystems. Includes a weekend field trip with the student paying own expenses. Credit may be earned in BIO 119 or BIO 219 but not both. (30-0)

BIO 221 Nature Study 4 Sem Hrs
Prerequisite: BIO 111 recommended. Designed to introduce students to identification of local flora and fauna. Investigates relationships of these organisms to student's environment. (45-30)

BIO 230HW Physical Anthropology and Archeology - Honors 4 Sem Hrs
Prerequisites: LEVEL 4 READING and LEVEL 2 WRITING and permission of the Honors Office. Introduces the origin and evolution of humankind's physical and cultural development. Emphasizes the evidence and theories of human evolution and a survey of Old World and New World archeology. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in only one of SOC 230, SOC 230H, BIO 230, or BIO 230H. (60-0)

BIO 230W Physical Anthropology and Archeology 4 Sem Hrs
Prerequisites: READING LEVEL 2 or WRITING LEVEL 2. Introduces the origin and evolution of humankind's physical and cultural development. Emphasizes the evidence and theories of human evolution and a survey of Old World and New World archeology. Credit may be earned in only one of SOC 230, SOC 230H, BIO 230, or BIO 230H, but not both. (60-0)

BIO 240 Human Anatomy 4 Sem Hrs
Prerequisite: BIO 171 or permission of instructor. The anatomy of the human body is presented on an integrated regional basis, supplemented by relevant histological, embryological, and functional considerations. The laboratory emphasizes regional dissections of the cat. Designed to meet the needs of biology majors and pre-professional science curricula, including all transfer health-related fields. (45-45)

BIO 241 Physiology 4 Sem Hrs
Prerequisite: BIO 171 or BIO 240 or permission of instructor. Background in anatomy and chemistry is desirable, but not required. Provides students with an introduction to the functional integration of the major organ systems of animals, with special emphasis on the human body. Places emphasis on the ways in which the various systems interact to maintain homeostasis of the individual. Illustrates through laboratory experiments both classical and modern approaches to the physiology of various organ systems. (45-60)

BIO 268 International Studies in Biology 1-4 Sem Hrs
Provides a biologic interpretation of selected world regions with emphasis on natural history, flora and fauna, and ecological relationships. Includes class lectures, individual consultation, and international field study. Expenses for the field study are the responsibility of the student. (15-60,0)

BIO 272W Integrated Biology Review for Teachers 3 Sem Hrs
Requires previous exposure to college-level chemistry and biology for this review course. Prepares potential teachers for the Michigan Test for Teacher Certification (MTTC). Covers topics such as the scientific method, cell types and cellular function, evolutionary changes and inheritance, the classification of living things, ecological principles, and ecosystems. Uses a combination of cooperative learning techniques, debates, discussion, group activities, a learning portfolio, a poster presentation, individual presentations, and case studies. (45-0)

BIO 274 Introduction to Biotechnology 2 Sem Hrs
Prerequisites: CHM 111 and BIO 171 or permission of instructor. Gives a detailed look at cell and molecular biology with a focus on biotechnology. Explores the following topics: regulation of gene expression and development, recombinant DNA, gene cloning, PCR, DNA sequencing and profiling, gene therapy, protein purification, cell culture, cancer and the use of model organisms. Designed for students interested in careers in biotechnology, biochemistry, medicine or pharmacy. Meets requirements of Ferris State University's Bachelor of Science program in biotechnology. (30-0)

BIO 280 Pathophysiology 4 Sem Hrs
Prerequisites: BIO 153 with a C or better; or BIO 241 with a C or better; or permission of the instructor. Provides an overview of abnormal physiological processes leading to human disease. Emphasizes the etiology, pathogenesis, diagnostic findings and clinical manifestations of specified illnesses. Includes general overviews of risk factors, disease incidences and therapeutic managements as they apply to each pathophysiological condition discussed. Covers in this course include alterations in the nervous, endocrine, immune, cardiovascular, respiratory, digestive, urinary systems (60-0).

BIO 290-299 Special Projects in Biology Sem Hr

Computer Aided Design

CAD 114 Introduction to CAD 3 Sem Hrs
Prerequisites: ARC 105; or DRF 121; or SKDR 101; or permission of instructor. CST 103 is suggested or basic knowledge of the Windows Operating System. Introduces 2D and 3D CAD drawing, including basic drawing and editing commands. Studies CAD system interface, hardware, a current operating system, file management techniques, creating templates, creating and modifying geometry, dimensions and text styles, block and external reference insertion, model space/paper space layouts, and plotting techniques. Students may receive credit in only one of the following: ARC 114, CAD 114 or SKCA 114. (45-15)

CAD 120 Introduction to CAM 3 Sem Hrs
Prerequisites: DRF 104 or DRF 105 or SKDR 101; and CST 103 or CAD 114; or permission of instructor. Introduces the basics in computer geometry creation including line, arc, curve creation and manipulation. Gives a foundation to build on advanced CAD/CAM techniques. Instructs students on file transfer systems from CAD to CAM with emphasis on proper drawing techniques, including file type-save-transfer. Projects will be drawn, checked and created on appropriate equipment. Shows links between CNC machines on the shop floor and their relationship with the design process. Generates code from created drawings to be run on Computer Numerical Controlled equipment. Credit may be earned in CAD 120 or SKCA 120 but not in both. (30-30)

CAD 214 CAD Techniques 2 Sem Hrs
Prerequisites: CAD 114 or permission of the instructor and knowledge of a windows operating system. Drafting and design experience is a plus. Designed for the user with some previous CAD experience. Training courseware is used to thoroughly investigate the various options available in drawing commands, modification commands and dialog boxes. Practical real-world examples used to practice each functionality. Learning objectives of the lessons and exercises in this course support preparation for a computer aided design certification exam. (30-0)

CAD 226 3D Parametric Solid Modeling 3 Sem Hrs
Prerequisite: CAD 114. Develops skills in the use of 3D parametric solid modeling software. Converts solid models to 2D multi-view drawings and generates assembly and animation files. Culminates in Rapid Prototyping project and final presentation. (45-0)

CAD 290-299 Special Projects in Computer Aided Drafting

Child Development

CD 109W Introduction to the Educational Paraprofessional 2 Sem Hrs
Prerequisite: READING LEVEL 2 or WRITING LEVEL 2. Introduces the role of the educational paraprofessional in a classroom setting. Prepares for work with a diverse population while assisting in implementing curriculum, facilitating classroom activities, and working with special needs students. Identifies the skills necessary to work well with a team of teachers, administrators, and other professionals. Requires a service learning project. (30-0)

CD 110W Infant/Toddler Development 4 Sem Hrs
Prerequisite: READING LEVEL 2 or WRITING LEVEL 2. Introduces the skills needed to interact with infants and toddlers as a teacher in a professional capacity and includes observing and participating with these specialized populations and their teachers. Identifies curriculum methods used to enhance growth in all developmental areas, and skills required to work with parents to foster basic early learning enhancement. Requires volunteering 3 hours per week for a total of 30 contact hours in an approved, public, child development program during the main portion of the day.(45-30)

CD 111W Introduction to Early Childhood Education 3 Sem Hrs
Prerequisite: READING LEVEL 2 or WRITING LEVEL 2. Introduces the field of early childhood education for ages birth-8. Provides an overall view of classroom goals, types of programs, teaching techniques and professionalism. Defines Michigan licensing laws for programs. (45-0)

CD 112W Learning Center Activities 3 Sem Hrs
Prerequisite: READING LEVEL 2 or WRITING LEVEL 2. Provides the basic curriculum and organizational skills needed to work in an early childhood program. Identifies, develops and presents developmentally appropriate activities for the early childhood classroom. (45-0)

CD 113W Child Guidance Strategies 4 Sem Hrs
Prerequisite: READING LEVEL 2 or WRITING LEVEL 2. Introduces basic skills needed to interact with young children in a positive manner. Identifies instances of growth-producing and/or growth-restricting child behavior and the capability to recognize, interpret and apply a variety of positive guidance techniques. Introduces the preschool and primary classroom, observing and participating with these specialized populations and their teachers. Requires 3 hours a week for a total of 30 hours volunteering in an approved, public, child development program during the main portion of the day. (45-30)

CD 115PW Introductory Preschool Practicum 3 Sem Hrs
Prerequisites: CD 111, CD 112, CD 113. Introduces the early childhood classroom, observing and participating with young children and their teachers. Requires approximately nine hours a week volunteering in an approved early childhood program during the main teaching portion of the day, for a total of 90 hours. (27-90)

CD 116W Diversity and Families in Early Childhood Education 3 Sem Hrs
Prerequisite: READING LEVEL 2 or WRITING LEVEL 2. Introduces the background needed to work with parents of children in early childhood programs. Explores diversity in social class, economic resources, cultural customs, and traditions. (45-0)

CD 117W Student Teaching Practicum 6 Sem Hrs
Prerequisite: CD 110, 115P and either CD 114 or ED 201. Focuses on teaching developmentally appropriate activities while volunteering in an approved preschool or kindergarten classroom. Application of developmentally appropriate practice and theory during 12 hours per week in an approved student teaching classroom, for a total of 150 contact hours. (37.5-150)

CD 210W Child Care Program Management 3 Sem Hrs
Prerequisites: CD 117 and LWT165. Provides the student with the capstone course for obtaining an Associate of Applied Arts Degree in Child Development. Details all facets of program management in a licensed facility. Introduces the student to developing techniques used in writing a parent program handbook, as well as a staff manual of policies and procedures. Instructor permission required to enroll in this course. (45-0)

CD 290-299 Special Projects in Child Development

Co-operative Education

CED 295A Cooperative Education Technology Management 2 Sem Hrs
Prerequisite: CED 196A or permission of instructor. Continues from second-semester cooperative education with additional responsibilities at the worksite. The employer/supervisor and the college coordinator make evaluations. Class is a five-hour professional development seminar. (5-225)

Chemistry

CHM 100W World of Chemistry 4 Sem Hrs
Prerequisite: READING LEVEL 2, WRITING LEVEL 2, MATH LEVEL 3. Develops student understanding of fundamental concepts and methods used in chemistry. Includes topics of the composition, reactivity, arrangement and classification of matter, bonding, nomenclature, rates of reaction, and intermolecular forces. Investigates the context of food, environment, materials, energy, sustainability, and social implications of chemistry. This course is applicable as a lecture and laboratory credit for non-majors to satisfy a science requirement in certain curricula. Not appropriate for chemistry majors. (45-30)

CHM 101W General Chemistry I 5 Sem Hrs
Prerequisite: MATH LEVEL 4. Provides fundamental principles, including atomic theory, periodic properties, states of matter, laws of chemistry combination, nomenclature, and chemical phenomena of interest to daily living. Designed as a preparation to CHM 111 for those students with no previous work in chemistry and to satisfy a science requirement in certain curricula. (75-30)

CHM 105W Technical Chemistry I 5 Sem Hrs
Prerequisite: MATH LEVEL 3. Provides basic principles of general chemistry with an emphasis on resource-based and hands-on learning. Includes chemical and physical properties of matter, measurement and chemical calculations, chemical terminology, reactions and processes, and use of industrial and field testing equipment. Integrates computer skills into the course including word processing, spreadsheet, email, and web use. (60-60)

CHM 106W Technical Chemistry II 5 Sem Hrs
Prerequisite: Completion of CHM 101 or CHM 105 with a minimum grade of C (2.0). Provides inorganic and organic chemistry knowledge and technical skills' foundation essential for employment as a technician in a variety of chemistry-based professions. Includes analytical instrumentation use. (60-60)

CHM 107 Chemistry For Engineering Technology 4 Sem Hrs
Prerequisite: MATH LEVEL 6. Develops a foundation in chemistry for engineering technicians and designers so they can make better informed decisions. Builds connections of understanding between engineering material selection, design, and manufacturing processes. Uses fundamental principles including atomic theory, structure of metals and polymers, periodic properties, states of matter, gas laws, nomenclature, and common chemical reactions to make connections.(45-30)

CHM 111 General and Inorganic Chemistry I 5 Sem Hrs
Prerequisite: MATH LEVEL 5 and either high school chemistry or CHM 101 with a minimum grade of C (2.0). Emphasizes an in- depth study of the theories and principles of atomic structure bonding, stoichiometry, states of matters, and properties of solutions. Required for students who intend to enroll for more than one year of chemistry. Meets the needs of chemistry majors. Credit may be earned in CHM 111 or CHM 111H but not both. (60-45)

CHM 111H General and Inorganic Chemistry I - Honors 5 Sem Hrs
Prerequisite: READING LEVEL 4, WRITING LEVEL 2, MATH LEVEL 4 and either high school chemistry or CHM 101 with a minimum grade of C (2.0) and permission of the Honors Office. Emphasizes an in-depth study of the theories and principles of atomic structure bonding, stoichiometry, states of matters, and properties of solutions. Required for students who intend to enroll for more than one year of chemistry. Meets the needs of chemistry majors. Practices intellectual curiosity and applies it in independent ways to deepen understanding of course material. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in either CHM 111 or CHM 111H, but not in both. (60-45)

CHM 112 General and Inorganic Chemistry II 5 Sem Hrs
Prerequisite: MATH LEVEL 6; and CHM 111 with a minimum grade of C (2.0). Studies chemical equilibria in water, including ionization solubility, complexion, acid-base phenomena, and oxidation reducing equilibria. Discusses the principles of electrochemistry, chemical thermodynamics, chemical kinetics and special topics such as the descriptive study of metals and non-metals. Meets the needs of chemistry majors. Credit may earned in CHM 112 or CHM 112H but not in both. (60-45)

CHM 112H General and Inorganic Chemistry II - Honors 5 Sem Hrs
Prerequisite: READING LEVEL 4, WRITING LEVEL 2 and completion of CHM 111 with a minimum grade of C (2.0) and permission of the Honors Office. Continuation of CHM 111. Introduces chemical equilibria in water, including ionization solubility, complexion, acid-base phenomena, and oxidation reducing equilibria. Discusses the principles of electrochemistry, chemical thermodynamics, chemical kinetics and special topics such as the descriptive study of metals and non-metals. Practices intellectual curiosity and applies it in independent ways to deepen understanding of course material. Meets the needs of chemistry majors. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in CHM 112 or CHM 112H but not both. (60-45)

CHM 210 Organic Chemistry I 4 Sem Hrs
Prerequisite: Completion of CHM 111 or CHM 112 with a grade of "C" or better. Provides the basic principles of organic chemistry, including functional groups, nomenclature, mechanisms, reaction types and various reagents. Meets the needs of students in the medical and health fields, engineering fields, and science majors. (60-0)

CHM 210LW Organic Chemistry I Laboratory 1 Sem Hr
Prerequisite: Completion of or concurrent enrollment in CHM 210. Provides the basic principles of organic laboratory techniques. Includes note keeping, filtrations, recrystallizations, extractions, distillation methods, spectroscopic methods, chromatographic methods, chemical searches, and report writing. Recommended to be taken concurrently with CHM 210. (0-60)

CHM 220 Organic Chemistry II 4 Sem Hrs
Prerequisite: Completion of CHM 210 with a minimum grade of C (2.0). Provides a continuation of CHM 210 with reactions, mechanisms and nomenclature of carbonyl groups, carbohydrates, lipids, proteins and nucleotides. Includes special topics with applications in the medical, pharmaceutical and industrial fields. Meets the needs of students in medical and health fields, engineering fields, and science majors. (60-0)

CHM 220LW Organic Chemistry II Laboratory 1 Sem Hr
Prerequisites: Completion of CHM 210LW with a minimum grade of C (2.0). Provides a continuation of CHM 210L, applying the basic principles of synthesis and analysis to various challenging reactions, using established techniques. Recommended to be taken concurrently with CHM 220. (0-60)

CHM 221 Organic Biochemistry 3 Sem Hrs
Prerequisite: CHM 111 with a minimum grade of C (2.0). Studies the structure and properties of the major classes of organic compounds, with emphasis on biologically active functional groups. Discusses the fundamental concepts of biochemistry, molecular biology and the interrelationships of biologically active compounds in the major metabolic pathways. Designed for students interested in careers in health related fields, biochemistry, medicine or pharmacy. (45-0)

CHM 222LW Organic Biochemistry Laboratory 1 Sem Hr
Prerequisite: Completion of or concurrent enrollment in CHM 221. If taken concurrently, requires instructor permission. Provides a variety of perspectives using laboratory experiments to supplement and enhance the student's background in organic and biochemistry. Includes extractions, syntheses, separations, analyses, comparison of reactions, enzyme kinetics, PCR and gel electrophoresis. Designed for students interested in careers in health related fields, biochemistry, medicine or pharmacy.(0-45)

CHM 230 Chemical Analysis/Instrumentation 4 Sem Hrs
Prerequisite: MATH LEVEL 6 and either completion of CHM 106, or completion of CHM 112 and CHM 210 all with a grade of "C" or better. CHM 210 and CHM 230 may be taken concurrently with permission of the instructor. Presents the theory and practice of basic chemical preparation and analysis as performed in research and/or industrial settings. Emphasizes safety, detailed and accurate record keeping, data handling, and report writing. Benefits all science majors in Biology, Chemistry, Engineering, and other Applied Science Curricula. (45-45).

CHM 231 Troubleshooting for Analytical Instrumentation 1 Sem Hr
Prerequisite: Completion of or concurrent enrollment in CHM 210, CHM 221, or CHM 230. Provides an overview of techniques and documentation required for trouble shooting analytical instrumentation in an industrial setting. Includes systematic approach to diagnosis of instrument failures as well as hands-on maintenance and repair operations. Beneficial to all science and technology majors. (15-0)

CHM 290-299 Special Projects in Chemistry Sem Hr

Criminal Justice

CJ 101 Police Recruit Training 6 Sem Hrs
Prerequisite: Must be currently employed full-or part-time by a law enforcement agency, or have completed an Associate Degree upon entry, or will receive an Associate Degree upon completion of the Basic Police Training Academy. OAT 153, LW 280, and LWT 175 must be taken concurrently. Provides the basic training necessary to assume the duties of a police officer in preparation for MCOLES (Michigan Commission on Law Enforcement Standards) state certification. Includes constitutional law, criminal law, laws of arrest, search and seizure, investigative techniques, first aid, firearms, motor vehicle laws, defensive tactics, and patrol techniques. Contact the Delta Police Academy for information concerning admission requirements, enrollment, and current course fees. To obtain an Associate Degree in Criminal Justice, a student must earn a grade of C (2.0) or better in this course. (605-0)

CJ 102 Jail Officer Academy 4 Sem Hrs
Prerequisite: Must have completed an Associate Degree upon entry, or will receive an Associate Degree upon completion of the Jail Officer Academy (Local Corrections Officer Certification Academy). LWA 279 and LWT 170 must be taken concurrently. Provides the basic training necessary to assume the duties of corrections deputy or local detention officer in accordance with Michigan Sheriff's Coordinating and Training Council (MSCTC) standards and certification. Includes Booking and Intake Screening, Correctional Law, Cultural Diversity, Custody and Security, Stress Management, Ethics in Corrections, Prisoner Behavior, Workplace Harassment, Fire Safety, Interpersonal Communications, Report Writing, and Suicide Awareness. Contact the Delta Police Academy for information concerning admission requirements, enrollment, and current course fees. (112-0)

CJ 110W Introduction to Criminal Justice 3 Sem Hrs
Prerequisite: READING LEVEL 1 or WRITING LEVEL 1. Introduces and provides orientation to the field of law enforcement and criminal justice. Explores major areas including: the philosophical and historical background of the field; types of courts and agencies in the field and their responsibilities; administrative and technical problems in the field and an understanding of the Bill of Rights Amendments to the Constitution. (45-0)

CJ 111W Police Administration 3 Sem Hrs
Prerequisite: READING LEVEL 1 or WRITING LEVEL 1. Analyzes the functional divisions of the modern police department. Studies management operations, coordination of activities, communications, recruiting, training, public relations, and looks at the future of law enforcement. (45-0)

CJ 112W Police Operations 3 Sem Hrs
Prerequisite: READING LEVEL 1 or WRITING LEVEL 1. Studies patrol as a basic police function, including both the theoretical and functional aspects. Covers the responsibilities of, purpose, methods, types and means of police patrol. Exams patrol strength layout, beats, technological advancements affecting the patrol officer. (45-0)

CJ 130W Introduction to Corrections 3 Sem Hrs
Prerequisite: READING LEVEL 1 or WRITING LEVEL 1. Provides an understanding of the agencies and institutions that have legal authority over the custody and supervision of offenders. Discusses major areas including the history and development of corrections, community based corrections, local, state and federal institutions, and institutional administration. Explores correctional treatment of female, male, and juvenile offenders. Covers the role of corrections in the total system of criminal justice. (45-0)

CJ 132W Client Relations in Corrections 3 Sem Hrs
Prerequisite: READING LEVEL 1 or WRITING LEVEL 1. Develops an awareness of the effects of culture and discrimination on the attitude formation of individuals, to assist in identifying various professional responses to human behavior. (45-0)

CJ 135W Correctional Institutions and Facilities 3 Sem Hrs
Prerequisite: READING LEVEL 1 or WRITING LEVEL 1. Provides an overview of correctional institutions and facilities. Covers topics including the purpose of prisons and correctional institutions, treatment and rehabilitating programs, management and organization of correctional institutions, custodial care, safety and security, and future concerns. (45-0)

CJ 150 Introduction to Emergency Dispatch 1 Sem Hr
Introduces the history, structure and roles of the emergency dispatch center. Explains major responsibilities and skills needed for career as emergency telecommunicator. Examines associated legal and social issues and offers resolutions to stress and burnout issues related to field. (15-0)

CJ 182W Introduction to Security 3 Sem Hrs
Prerequisite: READING LEVEL 1 or WRITING LEVEL 1. Introduces the field of security and orients student to career options. Explores origins and development of security, proprietary security, risk analysis, fire protection, safety, internal theft control, insurance cargo security, computer security, institutional security, and the future of security. (45-0)

CJ 187W Current Issues in Security 3 Sem Hrs
Prerequisite: READING LEVEL 1 or WRITING LEVEL 1. Surveys current issues in security: terrorism, espionage, substance abuse, employee theft, computer vulnerabilities, and protection of information. (45-0)

CJ 210W Introduction to Criminal Investigation 3 Sem Hrs
Prerequisite: READING LEVEL 2 or WRITING LEVEL 2. Introduces criminal investigation procedures: theory of an investigation, conduct at crime scenes, collection and preservation of physical evidence, methods used in police science laboratory, finger prints, ballistics, documents, serology, photography, and related forensic sciences. (45-0)

CJ 211W Private Security and Investigative Methods 3 Sem Hrs
Prerequisite: READING LEVEL 2 or WRITING LEVEL 2. Introduces private security and investigative methods, including public record searching, surveillance, background investigations, interviewing techniques, fair credit reporting act, computer based investigations and video evidence. (45-0)

CJ 215W Introduction to Homeland Security 3 Sem Hrs
Prerequisite: READING LEVEL 2 or WRITING LEVEL 2. Explains the basic concepts of homeland security. Examines domestic and foreign terrorist violence aimed at achieving radical change in society. Explores governmental reaction to homeland security needs and threats against interests of the United States. (45-0)

CJ 220W Crime Laboratory Techniques 3 Sem Hrs
Prerequisite: READING LEVEL 2 or WRITING LEVEL 2 and CJ 210 with a "C" or better. Introduces scientific criminal investigation and criminalistics: proper handling and transmittal of evidence to the crime laboratory, laboratory aids that are available, and understanding of the probabilities related to examination of physical evidence. (45-15)

CJ 233W Client Growth and Development 3 Sem Hrs
Prerequisite: READING LEVEL 1 or WRITING LEVEL 1. Explores the various factors involved in the development and growth of the criminal. Discusses the biological, environmental, and psychological influences. Reviews specific problems such as sexual, substance abuse and medical disorders. Explores intervention strategies. (45-0)

CJ 237W Jails & Local Detention 3 Sem Hrs
Prerequisite: READING LEVEL 2 or WRITING LEVEL 2 and CJ 110 or CJ 130 with a "C" or better. Explains the operations of jails and local detention facilities and their unique role in the criminal justice system. Covers Michigan jail and lockup operations, as well as their organization, management, and emerging issues confronting American jails. Reviews differences in jails and prisons regarding operations and differing clienteles. (45-0)

CJ 238W Legal Issues in Corrections 3 Sem Hrs
Prerequisite: READING LEVEL 1 or WRITING LEVEL 1. Studies the primary legal issues correctional personnel will be entrusted to enforce and safeguard. Covers an overview of U.S. Constitutional law, the court process from arrest through trial, the structure and function of the S.S. and state courts, and prisoner rights. (45-0)

CJ 250 The Juvenile Offender 3 Sem Hrs
Prerequisite: READING LEVEL 2 or WRITING LEVEL 2. Studies theories of causation as applied to juvenile delinquency. Examines the work of youth agencies. Explains Michigan Juvenile Law and constitutional safeguards for juveniles. Reviews new development in the prevention of juvenile crime. (45-0)

CJ 253 Emergency Dispatch Operations 3 Sem Hrs
Prerequisites: CJ 112, CJ 150, FST 101, SPH 212. Introduces the mechanical, technical, and general operations of an emergency dispatch center. Orients to call-taking and radio dispatching utilizing technical equipment such as multi-line phone systems, wireless technology, waves and frequencies, various computer systems, and generally accepted operational procedures. Discusses various resources available and utilized by emergency dispatchers.(45-0)

CJ 270W Evidence and Criminal Procedure 3 Sem Hrs
Prerequisite: READING LEVEL 2 or WRITING LEVEL 2 and any one course from the Criminal Justice Discipline or any POL 103, POL 104, or POL 212 course with a "C" or better or permission of the instructor. Studies the rules of evidence as it affects the criminal justice process. Includes an overview of criminal procedure as it pertains to the rules of arrest, search, and seizure, which regulate law enforcement, and protects citizen's rights of privacy and presumed innocence. (45-0)

CJ 271W Criminal Law 3 Sem Hrs
Prerequisite: READING LEVEL 2 or WRITING LEVEL 2 and any one course from the Criminal Justice Discipline or any POL 103, POL 104, or POL 212 course with a "C" or better or permission of the instructor. Examines elements and proof in crime of frequent concerns in law enforcement with reference to principal rules of criminal liability. Considers importance of criminal law at the enforcement level, from crime prevention to courtroom appearance. (45-0)

CJ 275W Probation and Parole 3 Sem Hrs
Prerequisite: READING LEVEL 2 or WRITING LEVEL 2 and CJ 130 with a "C" or better. Examines the process of probation and parole. Emphasizes management and supervision of individuals involved in the probation and parole process including interviewing, counseling techniques, and preparing court reports such as progress reports and pre-sentence investigations. (45-0)

CJ 280W Internship in Criminal Justice 3 Sem Hrs
Prerequisite: Minimum 15 credits Criminal Justice courses and permission of faculty. Field placement in a criminal justice setting (police department, court, juvenile center, etc.). An attempt will be made to find field education placements compatible with students' interests and agency needs. (10-160)

CJ 282 Internship in Emergency Dispatch 3 Sem Hrs
Prerequisites: CJ 253. Provides experience in day-to-day operations of varied emergency dispatch centers. Provides 24 hours of work experience at an approved emergency dispatch center, followed by 24 hours of work experience at a second approved emergency dispatch center. Requires working a varying shift rotation to experience a variety of job responsibilities as assigned by each emergency dispatch site. Provides work experiences as active emergency dispatcher during the course of the internship. Must have approval from the program coordinator prior to beginning internship at either selected site. Must also pass a background check by the interning agency and/or fulfill any other predetermined process required by the department. (0-45)

CJ 290-299 Special Projects in Criminal Justice 3 Sem Hrs

Certified Nursing Assistant

CNA 100LW Certified Nursing Assistant Lab 1.3 Sem Hrs
Prerequisites: READING LEVEL 4, WRITING LEVEL 2, and MATH LEVEL 2. Corequisite: CNA 100W. A Criminal Background Check must be completed and approved before entering the clinical agency. Introduces clinical skills and experiences related to basic patient care and activities of daily living. Utilizes these skills in a variety of health care settings, such as long-term, home health, and acute care facilities. Successful completion of the course with a grade of "C" or better entitles the student for eligibility to take a competency evaluation exam to attain state certification as a Certified Nursing Assistant. A final grade of "F" will be assigned in both theory and lab if either course is not successfully completed. Students are not eligible for a course refund, beyond the college defined refund period, if a determination has been made by the clinical agency that prevents the student from entering the facility for any reason. (0-60)

CNA 100W Certified Nursing Assistant Training 3.7 Sem Hrs
Prerequisites: READING LEVEL 4, WRITING LEVEL 2, and MATH LEVEL 2. Corequisite: CNA 100LW. A Criminal Background Check must be completed and approved before entering the clinical agency. Introduces theory related to basic patient care and activities of daily living. Successful completion of the course with a grade of "C" or better entitles the student for eligibility to take a competency evaluation exam to attain state certification as a Certified Nursing Assistant. A final grade of "F" will be assigned in both theory and lab if either course is not successfully completed. Students are not eligible for a course refund, beyond the college defined refund period, if a determination has been made by the clinical agency that prevents the student from entering the facility for any reason. (56-0)

CNA 290-299 Special Projects in Certified Nursing Assistant N/A Sem Hrs

Computer Numerical Control

CNC 162 Computer Numerical Control Theory 4 Sem Hrs
Prerequisites: SKTR 181 or MS 181, and SKMA 103 or MTH 103 or MT 110, or Instructor permission . Uses various methods, such as a text editor, machine control unit, and CAD/CAM (MasterCam) to produce alpha-numeric code (G-Code) which will run CNC machinery. Uses blueprints to problem solve and program both point-to-point and complex contours on machining centers and turning centers. Discusses machines with 2, 3, 4, and 5 axis controls. Emphasizes common formats of programming. Discusses machine tool controllers including HAAS, Funac, and Okuma. Includes hands-on activities. Credit may be earned in either CNC 162 or SKCN 162 but not in both. (40-20)

CNC 216 CNC with Machining Applications 4 Sem Hrs
Prerequisites: CAD 120 or SKCA 120, MS 181 or SKTR 181, CNC 162 or SKCN 162, MS 181W or SKTR 181. Emphasizes the programming methodology for producing quality parts using the CNC machines. Discusses conversational programming language with secondary emphasis on tooling setups, part setups, and machining. Utilizes horizontal and vertical machining center for program testing. Credit may be earned in SKCN 216 or CNC 216 but not both. (0-60)

CNC 225 Mastercam 4 Sem Hrs
Prerequisites: CAD 120 or SKCA 120, and CNC 162 or SKCN 162 or instructor permission. Teaches the advanced concepts of CNC programming for lathe work, mill 3 and 4 axis work, and/or other machinery, shop floor programming, and the principles of CNC operations. Emphasizes various machining operations, accompanied by demonstrations, student programming, and hands-on setup and machine operation. Emphasizes the creation of error free part programs using the MASTERCAM programming language, including part geometry, tool path, and debugging with secondary emphasis on the downloading of a program to the turning center, mill, machining center/system, or wire EDM. Credit may be earned in either SKCN 225 or CNC 225 but not in both. (15-45)

CNC 285W Computer Numerical Control Capstone 4 Sem Hrs
Prerequisites: Permission of instructor. Demonstrates application-based activities that tie a majority of your previous manufacturing learning together. Incorporates skills learned in drafting, CAD, manual and CNC machine tools, and CAM to complete the capstone project. Applies critical thinking and spatial analysis abilities in the processing of this project. Applies the fundamentals of ID tool design and tool making, fixture building, and geometric dimensioning and tolerancing (GD&T). Credit may be earned in CNC 285 or SKCN 285 but not in both. (30-60)

CNC 290-299 Special Projects in Computer Numerical Control

Communication

COM 112CW Fundamentals of Oral Communication 3 Sem Hrs
Offers training in the fundamental processes of oral expression, with an emphasis on speaking and listening as the coordination of perception and expression. Practices the basic principles, components, and skills for the development and delivery of presentations in specific communication situations. Intended to only be taken in a learning community combination. Credit may be earned in any SPH 112 course or any COM 112 course, but not both. (45-0)

COM 112HW Fundamentals of Oral Communication - Honors 3 Sem Hrs
Prerequisites: READING LEVEL 4 and WRITING LEVEL 2 and permission of the Honors Office. Offers training in the fundamental processes of oral expression, with an emphasis on speaking and listening as the coordination of perception and expression. Practices the basic principles, components, and skills for the development and delivery of presentations in specific communication situations. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in any SPH 112 course or any COM 112 course, but not both. (45-0)

COM 112W Fundamentals of Oral Communication 3 Sem Hrs
Prerequisites: READING LEVEL 2 or WRITING LEVEL 2. Offers training in the fundamental processes of oral expression, with an emphasis on speaking and listening as the coordination of perception and expression. Practices the basic principles, components, and skills for the development and delivery of presentations in specific communication situations. Credit may be earned in any SPH 112 course or any COM 112 course, but not both.. (45-0)

COM 114HW Interpersonal Communication - Honors 3 Sem Hrs
Prerequisites: READING LEVEL 4 and WRITING LEVEL 2 and permission of the Honors Office. Introduces the processes of perception, non-verbal behavior, self- concept, roles, and culture on human interaction in varying social settings. Increases student competency as communicators in social settings. Applies various concepts of communication behavior in the classroom. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may earned in any SPH 114 course or any COM 114 course, but not both. (45-0)

COM 114W Interpersonal Communication 3 Sem Hrs
Prerequisites: READING LEVEL 2 or WRITING LEVEL 2. Introduces the processes of perception, non-verbal behavior, self- concept, roles, and culture on human interaction in varying social settings. Increases student competency as communicators in social settings. Applies various concepts of communication behavior in the classroom. Credit may earned in any SPH 114 course or any COM 114 course, but not in both. (45-0)

COM 202W Oral Communication for Managers 3 Sem Hrs
Prerequisites: READING LEVEL 2 and WRITING LEVEL 2. Focuses on organizational behavior; management behavior styles and team building; interpersonal communication; appraisal, disciplinary, motivational and counseling interviews; listening and nonverbal behavior; public speaking; and leadership and consensus decision making. Emphasizes practical skills within the organization. (45-0)

COM 212W Listening 3 Sem Hrs
Prerequisites: READING LEVEL 2 and WRITING LEVEL 2. Focuses on the theory, behavior, and skills of listening. Includes discussion of the key components of listening such as hearing, understanding, remembering, interpreting, evaluating, and responding. (45-0)

COM 214W Small Group Communication 3 Sem Hrs
Prerequisite: READING LEVEL 2 and WRITING LEVEL 2 and a previous communication course. Focuses on small group communication theories, strategies, and skills for successful group participation. Increases student competency as effective team members and leaders. (45-0)

COM 215W Introduction to Theatre 3 Sem Hrs
Prerequisites: READING LEVEL 2 or WRITING LEVEL 2. Offers insight into all the various aspects of theatrical production. Observes and critiques dramatic productions whether on stage, film, or the T.V. screen. Analyzes plays and experiences in acting, directing, scenery, and lighting. (45-0)

COM 216W Theatre History 3 Sem Hrs
Prerequisites: READING LEVEL 2 and WRITING LEVEL 2. Introduces the student to the various historical areas of the theatre, from the ancient Greeks to the present. Emphasizes the development of the physical theatre, representative playwrights, and the development of actor and the director. (45-0)

COM 222 Introduction to Acting 3 Sem Hrs
Prerequisites: READING LEVEL 2 or WRITING LEVEL 2. Introduces the fundamentals of stage terminology, stage movement, use of voice, and believable character creation for an audience in both improvisational and written scenes. Emphasizes preparation and presentation of scenes before a classroom audience. (45-0)

COM 224W Nonverbal Communication 3 Sem Hrs
Prerequisites: READING LEVEL 2 and WRITING LEVEL 2. Focuses on nonverbal communication as it relates to interpersonal social, business and professional behavior. Analyzes kinesics, facial affect, eye contact, body movement and posture, physical characteristics, haptics, chronemics, proxemics, artifacts and environment. Discusses the prevalent theories underlying nonverbal behavior. (45-0)

COM 235W Principles of Persuasion 3 Sem Hrs
Prerequisites: READING LEVEL 2 and WRITING LEVEL 2, and COM 112 or COM 114, or instructor permission. Introduces the study and practice of persuasion focusing on the dual roles as producers and consumers of persuasive messages; examines persuasion in a variety of contexts using both the rhetorical and behavioral science traditions; applies theory and research to practical situations; develops strategies for constructing effective and ethical persuasive messages. (45-0)

COM 236W Advanced Oral Communication 3 Sem Hrs
Prerequisite: READING LEVEL 3 AND WRITING LEVEL 3 AND "C" or better in COM 112W or COM 202W, or written permission of instructor. Develops an advanced understanding of theories and strategies in the delivery of oral presentations. Advanced speaking skills are developed from an historical and contemporary rhetorical context. Emphasis is on analyzing and practicing speech discourse conventions, along with advanced information literacy skills as a key to effective delivery of speeches. (45-0)

COM 244W Family Communication 3 Sem Hrs
Prerequisites: READING LEVEL 2 and WRITING LEVEL 2. Provides students with an understanding of interpersonal communication in the context of family systems. Studies family communication through the lens of family systems theory, rules, and interaction theory. Provides students the opportunity to apply and operationalize the theories through various assignments related to their family of origin, existing family, and family configurations in other cultures. (45-0)

COM 245W Intercultural Communication 3 Sem Hrs
Prerequisites: READING LEVEL 2 and WRITING LEVEL 2. Provides an analysis of issues associated with communicating with an emphasis on how communication is influenced by culture and how culture is influenced by communication. Utilizes concepts drawn from sociology, psychology, anthropology, and communication. Applies theories and research related to intercultural communication in order to increase understanding of the relationship between culture and communication and subsequently be able to communicate effectively with people of other cultural groups. (45-0)

COM 246W Social Media and Communication 3 Sem Hrs
Prerequisites: READING LEVEL 3 and WRITING LEVEL 3. Identifies the impact of social media on interpersonal relationships. Explores communication through different types of social media. Applies communication theory to analysis of current social media outlets. (45-0)

COM 290-299 Special Projects in Communication Sem Hr

Chemical Process Industries

CPI 110 Introduction To Chemical Process Industries 2 Sem Hrs
Concurrent enrollment in CPI 120 recommended. Provides overview of Chemical Process Industries and Chemical Technology with focus on the role of the process operator and the chemical technician. Introduces concepts of safety, regulation, laws affecting the job and the industry, and quality control. Includes study skills and attitudes necessary for study of science/technology as well as means of continuing professional and personal growth. Credit may be earned in CPI 110 or CT 100 but not both. (30-0)

CPI 115 Chemical Plant Science Fundamentals 2 Sem Hrs
Prerequisite: Instructor permission required to register. Requires that the student has already earned a technical associate, bachelor or greater degree; military experience; over 8000 hours industrial experience; or a journeyman's card. Reviews the fundamental scientific principles of physics and chemistry. (30-0)

CPI 120 Introduction To Process Operations 2 Sem Hrs
Prerequisite: MATH LEVEL 5. Concurrent enrollment in CPI 110 recommended. Provides an overview of process operations including analysis of process flow sheets. Details description and analysis of operations as they involve reactors, distillation columns, heat exchangers, and other types of operations in the typical chemical plant. (30-0)

CPI 210 Basic Chemical and Unit Operations 4 Sem Hrs
Prerequisite: Completion of PHY 101, PHY 111, or PHY 211 with a grade of "C" or better (A high school Physics course completed with a "C" or better within the last three years may also qualify.) and CPI 120 with a grade of "C" or better. Provides understanding of basic principles of process technology along with an introduction to the use and operations of standard process equipment used worldwide by process technicians. Includes principles of energy and heat, pressure, fluid flow, heat transfer as well as topics concerning quality control and unit operations. Provides operational experiences with valves, pumps, compressors, distillation towers, and other process equipment and instrumentation. (45-45)

CPI 220 Process Measurement 3 Sem Hrs
Prerequisite: CPI 210 with a grade of "C" or better. Provides an understanding of process measurement methods and the application of process instrumentation. Includes discussion of pressure measurements, temperature measurement, flow measurement, product level measurement, and analytical measurement. (45-0)

CPI 230 Process Control 3 Sem Hrs
Prerequisite: CPI 220 with a grade of "C" or better. Provides an introduction to basic process control concepts. Discusses controllers/ control valves, instrument and process control, statistical process control (SPC), run and flow charts, quality systems, team concepts, and environmental health and safety issues. (45-0)

CPI 240W Process Troubleshooting 3 Sem Hrs
Prerequisite: CPI 250 with a grade of "C" or better. Provides problem solving skills used to maintain and monitor process equipment employing cause and effect analyses, case studies, analytical techniques, and laboratory simulations. Involves troubleshooting unit problems, maintaining, monitoring, and inspecting equipment, placing and/or removing equipment in service, and working with others who operate and maintain processes (maintenance technicians; laboratory technicians; and engineering, administrative and construction personnel). (30-30)

CPI 245 Environmental Health, & Safety in Chemical Process Industry 3 Sem Hrs
Prerequisite: Instructor permission required to register. Requires that the student has already earned a technical associate, bachelor or greater degree; military experience; over 8000 hours industrial experience; or a journeyman's card. Reviews the environmental health and safety procedures and standards in the chemical process industry. (30-15)

CPI 250W Advanced Chemical Operations 4 Sem Hrs
Prerequisites: CPI 230 with a grade of "C" or better. Provides hands-on simulations that demonstrate mechanical and measurement principles involved in the operation and control of chemical processes. Includes student/team operation of a process simulator under normal operating conditions as well as the operations of tanks, pumps, valves, heat transfer equipment, steam traps, filters, and process instrumentation. (45-30)

CPI 260W Process Operations Management 4 Sem Hrs
Prerequisite: CPI 240 and CPI 250 with a grade of "C" or better. Provides capstone experience for chemical process operation students/technicians. Focuses on demonstrated student skills in the use of control charts; P&ID's; verification of systems, units, and equipment; and development of critical values for SPC. Provides opportunity for students to present plans (including PSM and environmental management systems) and procedures for start-up and run, shut down operations, and present results of pilot project run. Emphasizes the value and function of the team in process operations as well as quality control, and environmental health and safety issues (45-45)

CPI 270 Advanced Process Operations Lab 2 Sem Hrs
Prerequisite: CPI 230, CPI 240, CPI 250 with a minimum grade of "C" or better, Concurrent enrollment with CPI 260 is recommended. Provides practical application of the skills required of an entry level chemical operator, including following Standard Operating Procedures, new process commissioning, equipment troubleshooting, preventative maintenance, Lock Out / Tag Out and Environmental, Health and Safety Compliance. (0-30)

CPI 290-299 Special Projects in Chemical Process Industries Courses 1-4 Sem Hrs

Computer Science & Info Tech

CST 091 Beginning Computer Windows Concepts 1 Sem Hr
Provides the terminology needed to become familiar with computer hardware and software. Provides a first exposure to the Windows Operating system in a hands-on setting focusing on file and folder management. Assists those who lack familiarity with computer technology. This course does not count towards graduation. Credit may be earned in CST 091 or CST 092, but not both. (15-3)

CST 093 Beginning Internet Concepts 0.5 Sem Hr
Presents the terminology needed to become familiar with the Internet. Provides a first exposure to the Internet in a hands-on setting. Assists those who lack familiarity with e-mail and searching the Web. Does not earn credit toward graduation. (7.5-1.5)

CST 094 Beginning Computer Applications Concepts 0.5 Sem Hr
Prerequisite: CST 091 or instructor permission. Presents the terminology needed to become familiar with office applications. Provides a first exposure to Microsoft Office applications in a hands-on setting. Assists those who lack familiarity with Word Processing, Spreadsheets, and Presentation Graphics. Does not earn credit toward graduation. (7.5-1.5)

CST 103 Windows Foundations 1 Sem Hr
Provides a basic introduction to the Microsoft Windows Operating System. Includes the creation of folders and use and review of the basic concepts of storage on floppy and hard disk. Introduces the basic features of Windows including menus, icons, dialog boxes, and the title and menu bars. Emphasizes the use of multi tasking. (15-0)

CST 104 Microsoft Word Foundations 1 Sem Hr
Prerequisite: OAT 170 Keyboarding with a "C" (2.0) grade minimum or equivalent touch typing and computer background. Introduces Microsoft Word software. Teaches how to create, format, save, retrieve, edit, and print documents. (15-0)

CST 105 Outlook 1 Sem Hr
Prerequisite: CST 103 or equivalent computer background. Introduces Microsoft Outlook and its e-mail, calendar, contacts, and tasks/notes components. Teaches how to send and receive e-mail, manage calendar activities, maintain contacts, and create tasks and notes. Also includes customization and integration of Outlook components. (15-0)

CST 106 Internet Foundations 1 Sem Hr
Develops skills to access and use the Internet emphasizing easy information retrieval. Introduces essential Internet areas such as E-Mail and the use of Graphical Web Browsers. Credit may be earned in only one of the following: CST 106, CPS 160, CIS 160 or CIS 161. (15-0)

CST 107 Microsoft Publisher 1 Sem Hr
Prerequisite: CST 104 Microsoft Word Foundations or OAT 171 Document Processing: Beginning or equivalent word processing background. Introduces the basics of using Microsoft Publisher to design and create publications for personal use and professional purposes. Teaches principles of publication design and layout, including formatting text, using graphic manipulation tools, applying color schemes and styles, and working with templates. (15-0)

CST 110 Web Page Development Using HTML 1 Sem Hr
Prerequisite: CST 103 or equivalent and e-mail and Internet skills. Develops skills to create and maintain a basic Web page using HTML. Includes text formatting, lists, graphics insertion, tables, and the use of links to other pages. (15-0)

CST 115W e-Commerce Concepts 3 Sem Hrs
Provides an explanation of traditional commerce and e-commerce, which is doing business over the web. Describes an overview of the economic structures in which businesses operate and describe how electronic commerce fits into those structures. Includes a review of different Web-based tools, the software necessary, security concerns and strategies for Marketing, Sales and Promotion on the Web. (45-0)

CST 120 PC Operating System Command Line Interface (DOS) 1 Sem Hr
Provides a basic introduction to Command Line Operating Systems Interface using the Disk Operating System (DOS) as an example. Includes basic commands and emphasizes commands for managing files and directories. Introduces basic features of managing and backing up a hard disk and surveys troubleshooting tools. Includes the creation and use of batch files. (15-0)

CST 123 Windows Operating System 1 Sem Hr
Prerequisite: CST 103. Provides a continuing orientation to PC Operating Systems. Emphasizes the Windows Operating System features needed in the daily operation of microcomputers including customizing and managing the desktop, maintaining the system and backing up data. Includes the customizing of windows for increased productivity, creation of graphics and the concepts of Object Linking and Embedding. (15-0)

CST 126 Unix/Linux Operating System 2 Sem Hrs
Provides a basic orientation to the Unix and Linux Operating Systems. Emphasizes how to create, display, copy and print files. Includes how to work with directories, and how to connect to the Internet. Credit may be earned in CST 126 or CIS 109, but not both (30-0)

CST 128 PC Hardware Concepts and Troubleshooting 4 Sem Hrs
Prerequisite: CST 120. May be taken concurrently with CST 120 with instructor permission. Uses hands-on experiences to examine the internal hardware components of IBM compatible computers with an emphasis on troubleshooting and repair. Discusses interaction of operating system and hardware in running application programs. Explores upgrading and optimizing computers to solve typical hardware and software problems. (60-0)

CST 129 Mac OS Troubleshooting 2 Sem Hrs
Prerequisites: CST 128 with a grade of "C" or better. Provides a basic introduction to the MAC Operating Systems Interface using common features and functions. Includes basic commands and emphasizes commands for managing files and directory structure. Performs general maintenance, back-ups, and troubleshooting of MAC OS. Discusses function and structure of MAC OS. (30-0)

CST 133W Computer Concepts & Competencies 4 Sem Hrs
Prerequisite: READING LEVEL 3. Prepares for the on-going ethical, environmental, societal and global issues of technology. Presents computer concepts including input and output of data and how information is processed, stored, and shared. Examines the purpose of networks, their technologies, scopes, and connectivity issues. Gives major consideration to Internet technology and access emphasizing research, education, communication, e-commerce, and security. Provides an introduction to software engineering and the analysis and design of computer systems. Discusses computer platforms, architectures, and system software. Develops PC competencies and skills including file management, word processing, spreadsheets, presentation graphics, database, Internet, Web pages, and graphics. Credit may be earned in CST 133 or CIS 133, but not both. (60-0)

CST 134 Micro Computers in Business Using MS Office 3 Sem Hrs
Surveys small computer systems used for personal, business, and industrial applications including hardware, software, and operating systems. Uses MS Office for word processing, spreadsheets, and database software as well as the evaluation and selection of systems. Credit may be earned in CST 134 or CIS 120, but not both. (45-0)

CST 135 Help Desk Fundamentals 1 Sem Hr
Explores computer support processes and procedures that are used in business. Examines methods of communicating with users. Describes how service agreements are established with users. Defines problem solving procedures and methods to track and measure a problem until it is solved. (15-0)

CST 147 Presentation Graphics Using PowerPoint 2 Sem Hrs
Prerequisite: CST 103 or knowledge of the windows operating system. Develops beginning/intermediate skills in presentation and graphic layout for business and education presentations. Includes computer projection and creating of computer generated transparencies and handouts. Focuses on developing attractive, professional, effective, and well- timed visuals for different business settings using computer graphic presentation software. Credit may be earned in CST 147 or CIS 201 but not both. (30-0)

CST 150W Information Security Policies, Procedures, and Fundamentals 3 Sem Hrs
Prerequisite: READING LEVEL 3. Covers terminology; security systems development and implementation; and legal, ethical, and professional issues. Provides knowledge and experience to develop and maintain security policies and procedures. (30-15)

CST 151 Spreadsheet Fundamentals 2 Sem Hrs
Prerequisite: CST 103 or Windows experience or permission of instructor. Surveys Microsoft Excel on the IBM PC including evaluation of spreadsheets, data base, graphics, report formatting and macros as applied to personal small business, and industrial settings. Credit may be earned in only one of the following: CST 151, CIS 132, CST 155, CIS 136. (30-0)

CST 152 Implementing Network Security 3 Sem Hrs
Prerequisite: CST 150. Provides knowledge and the practical experience necessary to evaluate, implement, and manage secure information transferred over computer networks. Includes network security, intrusion detection, types of attacks, methods of attacks, security devices, basics of cryptography, and organizational security elements. (15-30)

CST 153 Implementing Firewalls 3 Sem Hrs
Prerequisite: Instructor approval. Includes planning, designing, installing, configuring, and managing Firewalls and Virtual Private Networks (VPNs) that will allow key services while maintaining security. Includes protecting the internal IP services, configuring a firewall for remote access. (15-30)

CST 154W Incident Response and Disaster Recovery 3 Sem Hrs
Prerequisites: CST 152 or CST 266. Includes implementing a plan to detect intruders, determine the damage caused, and discuss what precautions to use to avoid disasters and to recover from them when they do occur. (15-30)

CST 155 Microsoft EXCEL 3 Sem Hrs
Presents EXCEL features using personal and business applications. Emphasizes features and techniques to develop solutions to spreadsheet problems. Includes evaluation of spreadsheets, data base, report formatting, and macros. Compares EXCEL with other electronic spreadsheets. Credit may be earned in only one of the following: CST 151, CIS 132, CST 155, or CIS 136. (45-0)

CST 156 Implementing Wireless Security 3 Sem Hrs
Prerequisites: CST 153 or CST 154. Covers foundations of wireless security, wireless LAN vulnerabilities, passive wireless discovery, active wireless attacks, wireless security models, and enterprise wireless hardware security. Includes designing a secure wireless network, securing wireless authentication and transmission, managing the wireless network, writing wireless security policy, and managing operational support and wireless convergence. (15-30)

CST 158 Network Intrusion Security Testing 3 Sem Hrs
Prerequisites: CST 153 and CST 154. Serves as a capstone for the Information Assurance track. Introduces security testing to protect networks and computers by using various tools to attempt entry into a network or computer. (15-30)

CST 159 Introduction to Oracle Database Management 2 Sem Hrs
Explores relational database concepts and the architecture of a client-server database. Uses Oracle SQL commands to create and manage database tables and records. Introduces use of Oracle utilities. (30-0)

CST 160 Networking Essentials 3 Sem Hrs
Prerequisite: CST 133W. May be take concurrently with CST 133W with instructor permission. Explores all aspects of networking technologies, media, topologies, devices, management, tools and security. (30-15)

CST 161 Cisco Network Fundamentals 3 Sem Hrs
Prerequisites: CST 133W. It is recommended that CST 160 be taken concurrently. Explains concepts, architectures, standards, protocols, designs and media of data communications and network technology. (30-15)

CST 162 Introduction to Novell Network Administration 2 Sem Hrs
Prerequisite: CST 161. Introduces Novell NetWare. Covers installing NetWare, adding and deleting users, working with Novell Directory Services, setting up network printers, and maintaining security. (30-0)

CST 163 Introduction to Windows Network Administration 2 Sem Hrs
Prerequisite: CST 161 Introduces Microsoft Windows Networking. Covers installing Microsoft Windows, adding and deleting users, working with Active Directory, setting up network printers, and maintaining security. (30-0)

CST 164 LAN Switching and Wireless 3 Sem Hrs
Prerequisite: CST 161. Introduces concepts and terminology associated with Cisco networks and routers. Configures a basic Cisco internetwork. Manages and troubleshoots Cisco routers on an internetwork. (30-15)

CST 165 Linux Networking I 3 Sem Hrs
Prerequisite: CST 126 and CST 161. Introduces Linux as a network operating system. Covers installing Linux, configuring a simple file server, and administering basic network administration tasks with command-line and graphical user interface tools. (45-0)

CST 170 Principles of Computer Programming I 1 Sem Hr
Introduces fundamental concepts and techniques used to design computer programs. Includes problem definition, algorithm development, and program documentation. A programming language will be used to implement the design concepts. (15-0)

CST 171 Visual BASIC Programming I 2 Sem Hrs
Prerequisite: CST 170 with a grade of "C" or better. Introduces Visual Basic as a first class for Micro Computer programmers. Uses BASIC commands in a Windows environment. Emphasizes implementation of objects and event driven code. Presents screen design and Microsoft Visual Basic controls. Includes structured programming principles including internal and external program documentation; sequence, selection, and iteration constructs; and modular programming. (30-0)

CST 177 Principles of Computer Programming II 1 Sem Hr
Prerequisite : CST 170. Uses programmer tools to design, develop the logic, and document programs. VTOCs (Visual Table of Contents), flowcharts, state transition diagrams will be used. Emphasizes logic walk throughs and team development. Credit may be earned in CST 177 (formerly CST 270) or CIS 130, but not both. (15-0)

CST 180 C++ Programming 4 Sem Hrs
Prerequisite: MATH LEVEL 5 and CST 177 or permission of instructor. Uses the C++ language to introduce software development principles. Develops solutions to computing problems through algorithm design, development, implementation, and testing. Includes control structures, arrays, files, strings, pointers, and fundamental object-oriented programming. Credit may be earned in only one of the following: CST 180, CST 181, CIS 170, CPS 170, or EGR 170. (60-0)

CST 183 Java Programming 3 Sem Hrs
Prerequisites: CST 180 or instructor permission. Introduces the Java programming language with applications and applets. Emphasizes Java classes and object-oriented programming concepts. Includes control structures, string handling, arrays, graphics, files, and use of graphical user interface components. Introduces exception handling, multimedia, and multithreading. Credit may be earned in only one of the following: CST 183, CIS 180 or CPS 180. (45-0)

CST 186 Introduction to Game Programming 2 Sem Hrs
Prerequisite: CST 170 with "C" or better. Introduces principles of game and simulation programming through hands-on creation of simple games. Explores text-based and graphics-based game development through algorithm design, development, implementation, testing, and documentation. Incorporates text, graphics, sound, and animations in game design. Includes Top-Down Design, Object Oriented Programming, simple physics, basic Artificial Intelligence, and game engines. (30-0)

CST 204 Microsoft Word: Intermediate 2 Sem Hrs
Prerequisite: CST 104 or CST 134. Develops further the practical working knowledge of Microsoft Word software. Refines formatting and focuses on page layout and design. (30-0)

CST 210 Advanced Web Page Development 2 Sem Hrs
Prerequisite: CST 110, CIS 160, CPS 160, CIS 161 or equivalent basic HTML web page knowledge. Focuses on concepts and tools for building web pages beyond basic HTML. Includes introductions to frames, forms, stylesheets, image maps, and managing differences in current web browsers. Introduces web page scripting and server interactions. Discusses Internet issues including ethics, etiquette, accessibility and security. (30-0)

CST 214 JavaScript Programming 2 Sem Hrs
Prerequisite: CST 170 and CST 210, or equivalent HTML and programming experience. Introduces the JavaScript scripting language for web page enhancement. Includes JavaScript programming elements, forms and graphical user interface, managing windows, controlling links and location, and working with images, plug-ins, and documents. Credit may be earned in CST 214 or CST 114 but not in both. (30-0)

CST 216 Web Site Management 3 Sem Hrs
Prerequisites: CST 110 or CIS 160 or CPS 160, and ART 171 or equivalent experience. Explores the design and management of web sites using a variety of software applications. Uses hands-on experiences to create advanced web pages including hyperlinks, lists, tables, frames, forms, graphics, and special effects. (45-0)

CST 217 Web Server Programming 3 Sem Hrs
Prerequisite: CST 214 and CST 216; or equivalent web development experience. Introduces web server programming for processing user interactions with an Internet server. Focuses on processing web page form information, dynamically creating web pages, executing data-driven applications on a Web server, and performing various interactions with a Web user. (45-0)

CST 219W Web Site Deployment 2 Sem Hrs
Prerequisite: CST 217. Provides capstone experience for development of a complete web site for realistic client needs. Includes determination of requirements and web system design from an actual or hypothetical client. Includes deployment of a web site with a well-defined home page, multiple content pages, required graphics, forms, and server database interaction. (0-30)

CST 228 Advanced PC Troubleshooting (A+) 4 Sem Hrs
Prerequisite: Basic computer literacy and/or instructor permission. Covers common and advanced Microsoft Windows interface troubleshooting problems and techniques for solving them. Discusses function and structure of Microsoft Windows environment for managing files and directories; installing, configuring, customizing, and upgrading Windows environment and navigating through the operating system to access and retrieve information. Reviews Internet access concepts and setup. (60-0)

CST 235 Systems Analysis and Design 3 Sem Hrs
Prerequisite: CST 133 or CIS 133, and CST 170 or CIS 130, 1 semester of accounting, and a programming language course. Includes study of data processing systems and procedures involving analysis of various existing data processing applications in business and industry. Includes a study of integrated or total management information and data processing systems. Emphasis is given to developing detailed procedures in various areas of management. Designed to study the three phases: Analysis of present information flow; system specification and equipment; implementation and documentation of the system. Credit may be earned in CST 235 or CIS 235, but not both. (45-0)

CST 257 Database MS Access 3 Sem Hrs
Prerequisite: Any microcomputer class. Emphasizes the advantages of database processing, modeling, and design. Discusses design concepts from the standpoint of the user. Uses Microsoft ACCESS. Credit may be earned in CST 257 or CIS 260, but not both. (45-0)

CST 258 Introduction to Structured Query Language 1 Sem Hr
Prerequisite: CST 257. Examines SQL (Structured Query Language) which is the standard database language. Creates, updates, and retrieves information from relational databases. (15-0)

CST 259 Advanced Oracle Database Management 3 Sem Hrs
Prerequisite: CST 159. Creates PL/SQL programs and named program units that are stored in the database and in the workstation file system. Creates integrated database applications with Oracle utilities. Develops project applications for databases with large data sets. Uses the object-oriented features in Form Builder to create reusable form objects. (45-0)

CST 260 Routing Protocols and Concepts 3 Sem Hrs
Prerequisite: CST 161. Discusses the protocol suite of TCP/IP (Transmission Control Protocol/Internet Protocol). Defines and manages IP addresses. Configures a TCP/IP network. Investigates network management tools. (30-15)

CST 262 Advanced Novell Networking 3 Sem Hrs
Prerequisite: CST 162. Configures various types of servers. Defines and configures the NetWare graphical user interface. Administers NetWare Storage Services, NetWare Memory Management, and Novell Directory Services.(45-0)

CST 263 Advanced Microsoft Networking 3 Sem Hrs
Prerequisites: CST 161 and CST 163. Manages data storage, shared resources, and access rights. Manages and troubleshoots the network infrastructure, servers, client computers, and active directory objects. Manages software and security policies. (45-0)

CST 264 Accessing the WAN 3 Sem Hrs
Prerequisite: CST 164, and CST 260. Introduces the physical and data-link layer configuration tasks. Configures various types of protocols. Manages advanced Cisco internetworks. (30-15)

CST 265 Linux Networking II 3 Sem Hrs
Prerequisite: CST 165. Covers configuring different types of servers, administering advanced network administration tasks with command-line and graphical user interface tools, printing, and troubleshooting. (45-0)

CST 266 Information Security 4 Sem Hrs
Prerequisites: CST 260 and one of CST 262 or 263 or 265. Analyzes, designs, defines, and troubleshoots security policies and procedures to maintain information integrity, confidentiality and availability. (60-0)

CST 267 Introduction to Computer Forensics 3 Sem Hrs
Prerequisite: CST 266. Provides a comprehensive understanding of computer forensics and electronic discovery along with associated investigation tools and techniques. Explores computer forensic theory and focuses various forensic skills used in the Information Security profession (45-0).

CST 268W Special Topics in PC Support 2 Sem Hrs
Prerequisites: CST 128 & CST 228. Serves as the capstone course in the PC Support segment of the PC Systems Support & Technology program certificate and/or degree . Provides practical experience in PC Support through hands-on assessments drawing on learning gained in previous PC Systems Support courses. Focuses on PC hardware, software, network/security procedures, and communication skills including practice tests to help prepare for A+ certification/test. (15-15)

CST 269 Cisco Security 3 Sem Hrs
Prerequisite: CST 161, 164, and 260. Introduces core security concepts and skills needed for the installation, troubleshooting, and monitoring of network devices to maintain the integrity, confidentiality, and availability of data and services. Stresses Command Line Interface (CLI) for securing Cisco equipment. Provides an in-depth, theoretical understanding of Cisco security in a logical sequence driven by technology. (15-30)

CST 270 Special Topics in Network Administration 3 Sem Hrs
Prerequisite: CST 260 and one of CST 262 or CST 263 or CST 265; and at least one 200-level advanced networking course. Serves as the capstone class for the Network program. Gains practical experience through a 30-hour volunteer service learning project to apply and reinforce skills learned in the Network program. Apply in Division office for placement in CST 270 in the semester prior to anticipated placement. (15-30)

CST 271 Visual Basic Programming II 3 Sem Hrs
Prerequisites: CST 171. Writes programs in a Windows environment using Visual Basic to design custom user interfaces with menus and dialogue boxes. Set up menus, create functions, and create executable files. Includes multiple forms, arrays, object linking and embedding, sequential and random data files, databases, and trapping programming errors. (45-0)

CST 273 MS Applications Using Visual BASIC 2 Sem Hrs
Prerequisite: CST 171 or CIS 140. Emphasizes writing advanced applications in the windows environment using visual basic. Discusses linking to other windows applications, manipulating databases, and handling run-time errors. Includes creating user-friendly executable applications. Credit may be earned in CST 273 or CIS 241, but not both. (30-0)

CST 280 Advanced C++ Programming 4 Sem Hrs
Prerequisite: One of the following: CST 180, CST 181, CIS 170, CPS 170, EGR 170 or CPS 171. Introduces data structures and object-oriented programming. Includes array processing, sorting and searching algorithms, and pointer variables, and recursive programming. Studies data storage and retrieval using lists, stacks, queues, and trees. Utilizes object oriented programming methods including classes, composition, and inheritance. Credit may be earned in CST 280, or CST 281 and CST 282 combined, but not in more than one. (60-0)

CST 290-299 Special Projects in Computer Science and Information Technology

CST 392 Instructional Technology for Educators 3 Sem Hrs
Introduces software and internet applications technology for educators. Includes effective use of the Internet with e-mail, web usage and searching. Introduces tools for creation and modification of web pages. Includes various applications and techniques useful for teachers including presentation software, scanning and capturing graphics, spreadsheets, and classroom management tools. (45-0)

Chemical Technology

CT 100 Introduction To Chemical Technology 2 Sem Hrs
Provides overview of Chemical Process Industries and Chemical Technology with focus on the role of the process operator and the chemical technician. Introduces concepts of safety, regulation, laws affecting the job and the industry, and quality control. Includes study skills and attitudes necessary for study of science/technology as well as means of continuing professional and personal growth. Credit may be earned in CT 100 or CPI 110 but not both. (30-0)

CT 101 Introduction to Chemical Technology 1 Sem Hr
Provides an overview of Chemical Technology with focus on the role of the chemical technician. Introduces concepts of safety, regulation, laws affecting the job and the industry, and quality control. Includes study skills and attitudes necessary for study of science/technology as well as means of continuing professional and personal growth. Credit may be earned in only one of the following: CT 100, CT 101 or CPI 110. (15-0)

CT 290-299 Special Projects in Chemical Technology

Dental Assisting

DA 106W Infection Control 1 Sem Hr
Prerequisites: BIO 140 or BIO 152 and BIO 153; any approved College Composition I; and any COM 112 or COM 114, with a "C" (2.0) or better in each. Concurrent enrollment in DA 110, DA 110 LW, and DA 114W. Introduces principles of the control of infectious diseases in the dental environment. Presents OSHA, MIOSHA, Hazard Control, and Delta College Infection Control Protocol. Introduces basic microbiology. (15-0)

DA 110 Clinical Dental Assisting 3 Sem Hrs
Prerequisites: BIO 140 or BIO 152 and BIO 153; any approved College Composition I; and COM 112 or COM 114, with a "C" (2.0) or better in each. Concurrent enrollment in DA 106W, DA 110LW, and DA 114W. Provides the opportunity to explore the skills and knowledge for general chairside clinical procedures. (45-0)

DA 110LW Clinical Dental Assisting I Lab 4 Sem Hrs
Prerequisites: BIO 140 or BIO 152 and BIO 153; any approved College Composition I; and COM 112 or COM 114, with a "C" (2.0) or better in in each. Corequisites: DA 106W, DA 110, and DA 114W. Provides the opportunity for application of clinical techniques. Implements OSHA's practical skills. (0-120)

DA 113W Oral Anatomy & Physiology 4 Sem Hrs
Prerequisites: BIO 140 or BIO 152 and BIO 153; any approved College Composition I; and COM 112 or COM 114, with a "C" (2.0) or better in each. Concurrent enrollment in DA 117W. Introduces basic structures and physiology of the oral cavity, head, and neck. Includes oral histology, embryology, and pathology related to the development of the dental structure. (60-0)

DA 114W Dental Materials I 2 Sem Hrs
Prerequisites: BIO 140 or BIO 152 and BIO 153; any approved College Composition I, and COM 112 or COM 114, with a "C" (2.0) or better in each. Concurrent enrollment in DA 106W, DA 110, and DA 110LW. Presents theory, properties, manipulation, and hazard management of dental material to include cements, liners, amalgam, and resins. (30-0)

DA 117W Dental Health and Nutrition 1 Sem Hr
Prerequisites: BIO 140 or BIO 152 and BIO 153; any approved College Composition I; and COM 112 or COM 114, with a "C" (2.0) or better in each. Concurrent enrollment in 113W. Emphasizes oral hygiene, general and applied nutrition, as well as patient motivation techniques. Dental health projects required. (15-0)

DA 120 Clinical Dental Assisting II 3 Sem Hrs
Prerequisites: DA 106W, DA 110, DA 110LW, DA 113W, DA 114W, DA 117W, and HSC 140 with a "C" (2.0) minimum grade in each. Concurrent enrollment in DA 120LW, DA 121W, DA 125W, and DA 125LW. Provides the knowledge for additional application of dental techniques to include dental specialties. (45-0)

DA 120LW Clinical Dental Assisting II Lab 4 Sem Hrs
Prerequisites: DA 106W, DA 110, DA 110LW, DA 113W, DA 114W, DA 117W, and HSC 140 with a "C" (2.0) minimum grade in each. Concurrent enrollment in DA 120, DA 121W, DA 125W, and DA 125LW. Provides opportunity for additional application of dental techniques to include dental specialties. (0-120)

DA 121W Clinical Practice 4 Sem Hrs
Prerequisites: DA 106W, DA 110, DA 110LW, DA 113W, DA 114W, DA 117W, and HSC 140 with a "C" (2.0) minimum grade in each. Concurrent enrollment in DA 120, DA 120LW, DA 125W, and DA 125LW. Provides the opportunity to apply practical skills in a clinical setting. Requires assignments in off-campus facilities and dental hygiene clinics. (0-60)

DA 123LW Dental Radiology Lab 2 Sem Hrs
Prerequisites: DA 113W, DA 117W, and HSC 140 with a "C" (2.0) minimum grade in each. Concurrent enrollment in DA 123W. Provides laboratory practice in the application of commonly used dental radiographic procedures utilizing mannequins and clinic patients. (0-60)

DA 123W Dental Radiology 2 Sem Hrs
Prerequisites: DA 113W, DA 117W, and HSC 140 with a "C" (2.0) minimum grade in each. Concurrent enrollment in DA 123LW. Introduces the principles of radiation physics, factors affecting radiographic images, biological effects of radiation, and the protective measures necessary in dental radiation (30-0)

DA 125LW Dental Materials II Lab 2 Sem Hrs
Prerequisites: DA 106W, DA 110, DA 110LW, DA 113W, DA 114W, DA 117W, and HSC 140 with a "C" (2.0) minimum grade in each. Concurrent enrollment in DA 120, DA 120LW, DA 121W, and DA 125W. Introduces the manipulation of indirect and adjunct restorative procedures. (0-60)

DA 125W Dental Materials II 2 Sem Hrs
Prerequisites DA 106W, DA 110, DA 110LW, DA 113W, DA 114W, DA 117W, and HSC 140 with a "C" (2.0) minimum grade in each. Concurrent enrollment in DA 120, DA 120LW, DA 121W, and DA 125LW. Introduces the theory of indirect and adjunct restorative procedures. (30-0)

DA 129W Dental Office Management 3 Sem Hrs
Prerequisite: DA 123 and DA 123L with a "C" (2.0) minimum grade. Emphasizes fundamental office skills in managing patient and business records, handling the telephone and visitors, controlling the appointment book, and processing dental claim forms. Includes basic financial procedures and computer use. (45-0)

DA 130W Dental Assisting Internship 6 Sem Hrs
Prerequisite: DA 120 and DA 120LW with a minimum "C" (2.0) grade in each. Concurrent enrollment in DA 133. Provides the opportunity to perform chairside assisting techniques, laboratory procedures, and dental office management skills while under direct supervision. Assignments will be made to dental care facilities. (0-260)

DA 131LW RDA Exam Prep Lab 4 Sem Hrs
Prerequisites: DA 120, DA 120LW, DA 121W, DA 123W, DA 123LW, DA 125W and DA 125LW with a "C" (2.0) minimum grade. Concurrent enrollment in DA 131W. Provides continual dental procedure knowledge and skill development needed to perform expanded functions as permitted by State of Michigan mock clinical exam. (0-80)

DA 131W RDA Exam Prep 1 Sem Hr
Prerequisites: DA 120, DA 120LW, DA 121W, DA 123W, DA 123LW, DA 125W, and DA 125LW with a "C" (2.0) minimum grade in each. Concurrent enrollment in DA 131LW. Provides continual dental procedure knowledge and skill development needed to perform expanded functions as permitted by State of Michigan RDA mock written exam. (15-0)

DA 133W Dental Assisting Internship Seminar 1 Sem Hr
Prerequisite: DA 120 and DA 120LW with a minimum "C" (2.0) grade in each. Concurrent enrollment in DA 130. Provides opportunities to share internship experiences and future educational goals. Develops resume writing and job seeking skills. (15-0)

DA 290-299 Special Projects in Dental Assisting

Dental Hygiene

DH 100 Dental Hygiene Profession 1 Sem Hr
Provides overview of the Dental Hygiene Profession including the history and organizational structure of the American Dental Hygiene Association, and the ethical/legal aspects of the profession. Required dental office observation required. (15-0)

DH 101 Dental Anatomy I 2 Sem Hrs
Examines terminology of dental anatomy, morphology of the human dentitions and occlusion. (30-0)

DH 110 Dental Infection Control 2 Sem Hrs
Prerequisite: Current validation for Dental Hygiene Program. Presents theory and application of procedures and skills necessary to control transmissible diseases. Provides opportunities to practice Universal Precautions for the patient, professional, environment, and facilities. (15-30)

DH 111 Oral Examinations 1 Sem Hr
Prerequisite: DH 100 and 101 each with a C (2.0) minimum grade and admission to the Dental Hygiene Program. Provides opportunity to practice skills necessary to perform dental charting and oral cancer examinations. Examines the various parts of dental appliances. (0-30)

DH 112 Medical Assessment/Emergencies 2 Sem Hrs
Prerequisites: DH 100 and 101 each with a C (2.0) minimum grade, current HCP CPR certification and admission to the Dental Hygiene Program. Provides the opportunity to practice assessment, identification, and dental hygiene treatment protocol of septicemic emergencies which may occur in treating the dental patient. (15-30)

DH 114 Oral Health 2 Sem Hrs
Prerequisites: DH 100 and 101, each with a C (2.0) minimum grade and admission to the Dental Hygiene Program. Presents theory of the characteristics, origin, and development of fluoride, dentifrices, mouthwashes, and deposits that affect the tooth surface. Emphasizes tooth brushing, auxiliary aids, dental appliances, care of pre/post surgical and oral cancer patients. (15-45)

DH 115 Clinical Techniques 5 Sem Hrs
Prerequisites: DH 100 and 101 each with a C (2.0) minimum grade and admission to the Dental Hygiene Program. Presents theory and application of various periodontal instruments, plaque and stain removal and instrument sharpening skills that are necessary for proper use in the dental hygiene diagnostic and therapeutic services. Emphasizes proper documentation of findings. (45-90)

DH 116 Preventive Nutrition 3 Sem Hrs
Prerequisites: DH 100 and 101, each with a C (2.0) minimum, grade and admission to the Dental Hygiene Program. Provides theory of foods, essential nutrients and their effects on general health as well as oral health. Emphasizes nutrition in dentistry for the dental hygienist in prevention and health promotion. (45-0)

DH 118 Head and Neck Anatomy 3 Sem Hrs
Prerequisites: DH 100 and 101, each with a C (2.0) minimum grade and admission to the Dental Hygiene Program. Presents anatomy of the human head and neck and surrounding structures. Emphasizes basic anatomical terminology, landmarks, and a complete description of the skeletal, muscular, lymphatic, vascular, and innervation systems. (30-45)

DH 120 Periodontics I 3 Sem Hrs
Prerequisites: DH 110, 111, 112, 114, 115, 116, and 118 each with a C (2.0) minimum grade. Provides the opportunity to study the biology of the periodontium, etiology, epidemiology, pathology, and treatment of periodontal diseases. (45-0)

DH 121 Dental Hygiene Seminar I 2 Sem Hrs
Prerequisites: DH 110, DH 111, DH 112, DH 114, DH 115, DH 116, and DH 118 each with a C (2.0) minimum grade. Introduces fundamentals of treatment planning, recall systems, documentation, patient management, and communication with diverse patient populations. (30-0)

DH 122 Oral Histology and Embryology 3 Sem Hrs
Prerequisites: DH 110, 111, 112, 114, 115, 116, and 118 each with a C (2.0) minimum grade. Provides theory of the embryological development of the oral cavity and identification and classifications of normal and abnormal conditions of the oral cavity and supporting structures. Includes microscopic study of the histology of the human dentition and the surrounding supporting structures. (45-0)

DH 123 Dental Radiography 2 Sem Hrs
Prerequisites: DH 110, 111, 112, 114, 115, 116, and 118 each with a C (2.0) minimum grade. Presents theory of characteristics of radiation, components and functions of x-ray equipment, x-ray production, radiation biology and safety as well as processing and technical errors. (30-0)

DH 123L Dental Radiography Lab 1 Sem Hr
Prerequisites: DH 110, 111, 112, 114, 115, 116, and 118 each with a C (2.0) minimum grade. Introduces the techniques of exposing, processing, and mounting dental radiographs, as well as radiographic interpretation. (0-45)

DH 124 Pharmacology for Dental Hygiene 2 Sem Hrs
Prerequisites: DH 110, DH 111, DH 112, DH 114, DH 115, DH 116, and DH 118 each with a C (2.0) minimum grade. Concurrent enrollment in DH 120, DH 121, DH 122, DH 123, DH 123L, DH 125, and LW 206A. Provides introduction to drugs and anesthetic agents commonly used in the dental practice. Includes origin, physical and chemical properties, methods of administration, and biological effects on the various body systems. (30-0)

DH 125 Clinical Dental Hygiene I 4 Sem Hrs
Prerequisites: DH 110, DH 111, DH 112, DH 114, DH 115, DH 116, and DH 118 (each with a minimum "C" grade). Concurrent enrollment in DH 120, DH 121, DH 122, DH 123, DH 123L, DH 124, and LW 206A. Provides the opportunity to implement basic treatment skills with clinic patients. (15-120)

DH 130 Management of Dental Pain and Anxiety in the Dental Office 3 Sem Hrs
Perquisites: DH 120, DH 121, DH 122, DH 123, DH 123L, DH 125, and LW 206A with a minimum "C" (2.0) grade in each. Concurrent enrollment in DH 131, DH 135, LW 206B, and continued enrollment in DH 124. Provides the knowledge and practice to administer local anesthesia and nitrous oxide/oxygen sedation in a safe and effective manner. Provides the opportunity to perform various local anesthetic injection techniques and administer nitrous oxide and oxygen to achieve conscious sedation at a clinical level of competency. (30-30)

DH 131 Dental Hygiene Seminar II 1 Sem Hr
Prerequisites: DH 120, DH 121, DH 122, DH 123, DH 123L, DH 125, and LW 206A each with a C (2.0) minimum grade. Concurrent enrollment in DH 130, DH 135, LW 206B, and continued enrollment in DH 124. Emphasizes the study of techniques and philosophies of treating patients with special needs. (15-0)

DH 135 Clinical Dental Hygiene II 3 Sem Hrs
Prerequisites: DH 120, DH 121, DH 122, DH 123, DH 123L, DH 125, and LW 206A, each with a "C" (2.0) minimum grade. Concurrent enrollment in DH 130, DH 131, LWA 206B, and continued enrollment in DH 124. Provides the opportunity to practice and increase the students' proficiency skill levels from previous Dental Hygiene courses. (7.5-90)

DH 210W Periodontics II 2 Sem Hrs
Prerequisites: DH 130, DH 131, DH 135, and LW 206B, each with a "C" (2.0) minimum grade. Concurrent enrollment in DH 213, DH 214W, DH 215, DH 216W, and DH 219. Provides the opportunity for assessment, documentation, and treatment with pain management of the periodontal patient and to demonstrate ultrasonic scaling, root debridement, planning, and irrigation. (15-45)

DH 213 Oral Pathology 3 Sem Hrs
Prerequisites: DH 130, DH 131, DH 135 and LW 206B each with a "C" (2.0) minimum grade. Concurrent enrollment in DH 210, DH 214, DH 215, DH 216 and DH 219. Introduces the process, identification, and classification of oral diseases. Emphasizes the prevention of the diseases with the scope of responsibility and practice of the dental hygienist. (45-0)

DH 214W Dental Materials 4 Sem Hrs
Prerequisites: DH 130, DH 131, DH 135 and LWA 206B each with a "C" (2.0) minimum grade. Concurrent enrollment in DH 210, DH 213, DH 215, DH 216 and DH 219.Presents theory and clinical application related to properties and manipulation of dental materials and devices used in dental procedures. (45-45)

DH 215 Clinical Dental Hygiene III 6 Sem Hrs
Prerequisites: DH 130, DH 131, DH 135, and LWA 206B, each with a "C" (2.0) minimum grade. Concurrent enrollment in DH 210, DH 213, DH 214, DH 216, and DH 219. Provides the opportunity to practice and increase the students' proficiency skill levels of advanced instruments from previous Dental Hygiene courses. (15-180)

DH 216W Community Dentistry I 2 Sem Hrs
Prerequisites: DH 130, DH 131, DH 135 and LWA 206B each with a "C" (2.0) minimum grade. Concurrent enrollment in DH 210, DH 213, DH 214, DH 215, and DH 219. Provides theoretical base for assessing, designing, implementing, and evaluating dental health improvement programs. (30-0)

DH 219W Case Study Documentation I .5 Sem Hr
Prerequisites: DH 130, DH 131, DH 135, LWA 206B each with a "C" (2.0) minimum grade. Corequisites: DH 210, DH 213, DH 214, DH 215, DH 216. Provides an opportunity to identify the steps and begin using the process of case documentation for dental patients' conditions and treatment. (7.5-0)

DH 222W Case Study Documentation II 1.5 Sem Hrs
Prerequisites: DH 210, DH 213, DH 214, DH 215, DH 216, and DH 219 each with a "C" (2.0) minimum grade. Corequisites: DH 225, DH 227, DH 228, DH 229, and LWA 206C. Provides further opportunity to present specific case documentation on dental patients' conditions/ treatments. (22.5-0)

DH 225 Clinical Dental Hygiene IV 6 Sem Hrs
Prerequisites: DH 210, DH 213, DH 214, DH 215, DH 216, and DH 219 each with a "C" (2.0) minimum grade. Concurrent enrollment in DH 222, DH 227, DH 228, DH 229, and LWA 206C. Provides the opportunity to perfect dental hygiene skills learned in all previous dental hygiene courses and learn advanced instrumentation skills as well as application of pit and fissure sealants. (15-180)

DH 227W Community Dentistry II 1 Sem Hr
Prerequisites: DH 210, DH 213, DH 214, DH 215, DH 216 and DH 219, each with a "C" (2.0) minimum grade. Concurrent Enrollment in DH 222, DH 225, DH 228, DH 229 and LWA 206C. Provides opportunity for assessment of dental health needs for target populations. Includes design, implementation, and evaluation of dental health improvement programs in non-traditional settings. Evening, weekend, and holiday assignments may be required. (0-45)

DH 228 Dental Hygiene Seminar III 1 Sem Hr
Prerequisites: DH 210, DH 213, DH 214, DH 215, DH 216 and DH 219 each with a "C" (2.0) minimum grade. Concurrent Enrollment in DH 222, DH 225, DH 227, DH 229 and LWA 206C. Provides theory and techniques of treating patients with chemical dependencies and special needs. Includes the coordination of treatment phases of the AIDS patient. (15-0)

DH 229 Seminar on Practical Exam 2 Sem Hrs
Prerequisites: DH 210, DH 213, DH 214, DH 215, DH 216, and DH 219 with a minimum grade of "C" (2.0). Concurrent enrollment in DH 222, DH 225, DH 227, DH 228, and LWA 206C. Provides strategies and opportunities to practice skills to enhance success in licensure exams, position searches, and private practice. (15-30)

DH 290-299 Special Projects in Dental Hygiene Sem Hr

Diagnostic Medical Sonography

DMS 100 Patient Care and Management 2 Sem Hrs
Prerequisite: Must be accepted into the DMS program or have consent of instructor. Concurrent enrollment in DMS 105. Develops knowledge and skills in basic concepts of patient care. Includes emergency care procedures, infection control, patient safety and transfers, communication, and patient education. (30-0)

DMS 101W Introduction to Sonography 2 Sem Hrs
Prerequisite: DMS 100 and DMS 105W with a "B" (3.0) grade or better. Concurrent enrollment in DMS 103, DMS 104, DMS 106, and LW 206A, with continued enrollment in DMS 105. Introduces various aspects of sonography and health care including terminology, legal and ethical issues, patient care, film presentation, imaging modalities, and human reproduction and embryology. (30-0)

DMS 103 Introduction to Abdominal Sonography 3 Sem Hrs
Prerequisite: DMS 100 and DMS 105W with a "B" (3.0) grade or better. Concurrent enrollment in DMS 101, DMS 104, DMS 106, and LW 206A, with continued enrollment in DMS 105. Studies basic anatomy and physiology relating to abdominal sonography. Teaches proper scanning techniques and protocols for identifying normal and abnormal sonographic patterns. Discusses clinical signs and symptoms, along with interpretation of clinical lab tests. (45-0)

DMS 104 Introduction to OB/GYN Sonography 2 Sem Hrs
Prerequisite: DMS 100 and DMS 105W with a "B" (3.0) grade or better. Concurrent enrollment in DMS 101 DMS 103, DMS 105, DMS 106, and LW 206A. Discusses various aspects of OB/GYN sonography. Studies normal sectional anatomy and development, fetal assessment, normal and abnormal sonographic patterns, along with techniques and protocols. (30-0)

DMS 105W Ultrasound Physics and Instrumentation I 2 Sem Hrs
Prerequisite: Must be accepted into the DMS program or have consent of instructor. Concurrent enrollment in DMS 100. Introduces the basic acoustic physics including a history of instrumentation, ultrasonic propagation principles, transducer parameters, and basic equipment types. (30-0)

DMS 106W Ultrasound Scanning 4 Sem Hrs
Prerequisite: DMS 100, and DMS 107 with a "B" (3.0) grade or better. Concurrent enrollment in DMS 101, DMS 103, DMS 104, and LW 206A, with continued enrollment in DMS 105. Provides hands on experience in sonographic imaging. Teaches basic operations of the ultrasound machine along with transducer orientation. Includes an overview of abdominal and pelvis imaging, scan plane recognition, and basic imaging concepts. (75-0)

DMS 107 Introduction to Ultrasound Scanning .5 Sem Hr
Must be accepted into the DMS program. Concurrent enrollment in DMS 100, DMS 105W, DMS 108, DMS 107L. Provides an introduction to sonographic imaging. Teaches basic operations of the ultrasound machine along with transducer orientation and imaging scan planes. (7.5-0)

DMS 107L Introduction to Ultrasound Scanning Lab 1.5 Sem Hrs
Must be accepted into the DMS program. Concurrent enrollment in DMS 100, DMS 105W, DMS 108, DMS 107. Provides an introduction to sonographic imaging. Teaches basic operations of the ultrasound machine along with transducer orientation and imaging scan planes. (0-22.5)

DMS 108W Becoming a Master Sonography Student 1 Sem Hr
Prerequisite: Must be accepted into the DMS program. Co-Requisites: DMS 100, DMS 105W, DMS 107. Assists students in obtaining skills critical to their success in the DMS program. Demonstrates and practices strategies in test taking, textbook reading, memory, and thinking critically. Identifies DMS expectations and explores college resources and life skills related to success in an occupational health program. Demonstrates and practices working in a group, teamwork, and interpersonal skills. (15-0)

DMS 112 Small Parts Sonography 1 Sem Hr
Prerequisites: DMS 101, DMS 103, DMS 104, and DMS 106 with a "B" (3.0) grade or better and LW 206A with a "C" (2.0) minimum grade. Concurrent enrollment in DMS 113, DMS 114, DMS 115, DMS 116, DMS 117, and LW 206B. Covers the fundamentals of superficial parts sonography. Presents basic small parts anatomy, as well as proper scanning techniques and protocols for identifying normal and abnormal sonographic patterns. (15-0)

DMS 113 Advanced Abdominal Sonography 1 Sem Hr
Prerequisites: DMS 101, DMS 103, DMS 104, and DMS 106 with a "B" (3.0) or better and LW 206A with a "C" (2.0) minimum grade. Concurrent enrollment in DMS 112, DMS 114, DMS 115, DMS 116, DMS 117, and LW 206B. Presents pathology and disease processes, normal and abnormal sonographic patterns, clinical correlation, and differential diagnosis of the abdominal cavity. (15-0)

DMS 114 Advanced OB/GYN Sonography 2 Sem Hrs
Prerequisites: DMS 101, DMS 103, DMS 104, and DMS 106, all with a "B" (3.0) minimum grade, and LW 206A with a "C" (2.0) minimum grade. Concurrent enrollment in DMS 112, DMS 113, DMS 115, DMS 116, DMS 117, and LW 206B. Presents pathology and disease processes, normal and abnormal sonographic patterns, clinical correlation, and differential diagnosis of the obstetrical and gynecologic patient. (30-0)

DMS 115 Ultrasound Physics and Instrumentation II 2 Sem Hrs
Prerequisites: DMS 101, DMS 103, DMS 104, and DMS 106, all with a "B" (3.0) minimum grade and LW 206A with a "C" (2.0) minimum grade. Concurrent enrollment in DMS 112, DMS 113, DMS 114, DMS 116, DMS 117, and LW 206B. Presents the fundamentals of doppler ultrasound, scanning artifacts, quality assurance, and biologic effects, and safety. Includes an overview of the components of an ultrasound system. (30-0)

DMS 116W Clinical Seminar I .5 Sem Hr
Prerequisites: DMS 101, DMS 103, DMS 104, and DMS 106 all with a "B" (3.0) minimum grade, and LW 206A with a "C" (2.0) minimum grade. Concurrent enrollment in DMS 112, DMS 113, DMS 114, DMS 115, DMS 117, and LW 206B. Provides a clinical overview of sonographic procedures of the abdomen, pelvis, fetus, and small parts. Emphasizes identification of normal anatomy and basic pathology. (7.5-0)

DMS 117W Clinical Education I 5 Sem Hrs
Prerequisites; DMS 101, DMS 103, DMS 104, and DMS 106 all with a "B" (3.0) minimum grade, and LW 206A with a "C" (2.0) minimum grade. Concurrent enrollment in DMS 112, DMS 113, DMS 114, DMS 115, DMS 116, and LW 206B. Provides structured clinical experience necessary to perform sonographic procedures of the abdomen, pelvis, fetus, and small parts. (0-440)

DMS 201 Introduction to Neurologic and Vascular Sonography 3 Sem Hrs
Prerequisites: DMS 112, DMS 113, DMS 114, DMS 115, DMS 116, and DMS 117 all with a "B" (3.0) minimum grade, and LW 206B with a "C" (2.0) minimum grade. Concurrent enrollment in DMS 202, DMS 206, DMS 207, and LW 206C. Provides an overview of sonographic imaging of the neonatal and infant brain. Includes normal and abnormal anatomy and sonographic patterns. Looks at basic vascular ultrasound with emphasis on normal anatomy, imaging techniques, and basic pathology. (45-0)

DMS 202 Ultrasound Seminar I 4 Sem Hrs
Prerequisites: DMS 112, DMS 113, DMS 114, DMS 115, DMS 116, and DMS 117 all with a "B" (3.0) minimum grade, and LW 206B with a "C" (2.0) minimum grade. Concurrent enrollment in DMS 201, DMS 206, DMS 207, and LW 206C. Presents basic techniques and protocols for invasive and intraoperative sonography. Looks at advanced sonographic imaging procedures, new advances in the field of sonography, and the fundamental elements for maintaining an ultrasound department. (60-0)

DMS 206W Clinical Seminar II .5 Sem Hr
Prerequisites: DMS 112, DMS 113, DMS 114, DMS 115, DMS 116, and DMS 117 all with a "B" (3.0) minimum grade, and LW 206B with a "C" (2.0) minimum grade. Concurrent enrollment in DMS 201, DMS 202, and DMS 207. Provides a clinical overview of sonographic procedures of the abdomen, pelvis, fetus, and superficial parts. Emphasizes identification of pathology, recognition of disease processes, sonographic differentials, and clinical correlation. (7.5-0)

DMS 207 Clinical Education II 5 Sem Hrs
Prerequisites: DMS 112, DMS 113, DMS 114, DMS 115, DMS 116, and DMS 117 each with a "B" (3.0) minimum grade, and LW 206B with a "C" (2.0) minimum grade. Concurrent enrollment in DMS 201, DMS 202, DMS 206, and LW 206C. Provides structured clinical experience necessary to perform sonographic procedures of the abdomen, pelvis, fetus, small parts, and vascular system. (0-440)

DMS 212 Ultrasound Seminar II 4 Sem Hrs
Prerequisites: DMS 201, DMS 202, DMS 206, and DMS 207 each with a "B" (3.0) minimum grade, and LW 206C with a "C" (2.0) minimum grade. Concurrent enrollment in DMS 217. Discusses all aspects of sonographic imaging including scanning techniques and protocols, normal and abnormal sonographic patterns, pathologic and disease processes, and differential diagnosis. Includes preparation for the ARDMS certifying examinations. (60-0)

DMS 217 Clinical Education III 5 Sem Hrs
Prerequisites: DMS 201, DMS 202, DMS 206, and DMS 207 each with a "B" (3.0) minimum grade, and LWA 206C with a "C" (2.0) minimum grade. Concurrent enrollment in DMS 212. Provides structured clinical experience necessary to perform sonographic procedures of the abdomen, pelvis, fetus, small parts, and vascular system. (0-440)

DMS 290-299 Special Projects in Diagnostic Medical Sonography

Drafting

DRF 104 Basic Mechanical Design 4 Sem Hrs
Developed for students with no drafting experience, less than one year of high school mechanical drafting, or for students with less than a C (2.0) grade in mechanical drafting. Provides instruction and practice to develop skill in spatial visualization, sketching, multiview instrument drawing, section views, design concept presentation, pictorial drawing, and American National Standards Institute (ANSI) conventional drafting and dimensioning standards. Credit may be earned in DRF 104 or DRF 105 but not in both. (15-105)

DRF 105 Beginning Mechanical Design 3 Sem Hrs
Provides instruction and practice to develop skill in spatial visualization, sketching, multiview instrument drawing, section views, design concept presentation, pictorial drawing, and American National Standards Institute (ANSI) conventional drafting and dimensioning standards. Credit may be earned in DRF 104 or DRF 105 but not both. (15-75)

DRF 107 Intermediate Mechanical Design 3 Sem Hrs
Prerequisite: DRF 121 or SKDR 101; and CAD 114. Applies computer-aided and manual methods to the mechanical design process using single and multi-view dimensioning, tolerancing, limit dimensions, thread representation and symbols, orthographic projection, auxiliary views, revolution views, design specifications, working drawings, and vectors for analysis. (30-30)

DRF 121 Blueprint Reading 3 Sem Hrs
Introduces blueprint symbols and their meaning as used in a manufacturing operation. Provides instruction and practice to develop skill in spatial visualization, sketching, orthographic projection, including auxiliary and sectional views, detail and assembly drawings, dimensioning and tolerances, title blocks, material lists, and notes for use by various manufacturing personnel and American National Standards Institute (ANSI) conventional drafting and dimensional standards. Credit may be earned in DRF 121 or SKDR 101 but not both. (45-0)

DRF 122 Blueprint Reading for Welders and Fabricators 2 Sem Hrs
Prerequisite: DRF 120 or DRF 121 or SKDR 101 or WELD 120 or basic knowledge of blueprint reading. Applies principles specifically designed for welders and fabricators working with welding drawings. Interprets basic blueprint information, orthographic projection, assembly drawings, and geometric tolerancing. Places emphasis on welding symbols and welding drawings. Credit may be earned in DRF 122 or WELD 122 but not both. (30-0)

DRF 124 Blueprint Reading for Machine Tool Operators 2 Sem Hrs
Prerequisite: DRF 120. Instructs machinists, lathe operators, mill operators, and grinder operators in more in-depth treatment of working drawings, supplementary views and information, materials and processes commonly found in machining drawings. (30-0)

DRF 128 Geometric Tolerancing 2 Sem Hrs
Prerequisite: DRF 121 or permission of instructor. Emphasizes geometric symbols used in place of written notes on industrial drawings including datum, symbols, and other items tolerancing to the geometry of the part. Credit may be earned in either DRF 128 or SKDR 128 but not both. (30-0)

DRF 257 Advanced Mechanical Design 4 Sem Hrs
Prerequisites: DRF 107, DRF 128, MS 113, or permission of instructor. Focuses on individual and/or team assignments working from complex design layouts to presentation of complete sets of working drawings, including product design, piping design, welding design, and plant layout. Emphasizes the CAD/CAE system, the design process, engineering references, and use of supplier catalogs. (30-90)

DRF 290-299 Special Projects in Drafting Sem Hr

Economics

ECN 221W Principles of Macroeconomics 4 Sem Hrs
Prerequisites: READING LEVEL 2 or WRITING LEVEL 2 and one of the following: MATH LEVEL 4 or MGT 110 or SKMA 111. Studies the impact of consumer, business and government decisions on the macro economy. Includes: supply and demand analysis, measures of macroeconomic performance, money and banking, and various schools of macroeconomic thought and their policy implications. (60-0)

ECN 222W Principles of Microeconomics 4 Sem Hrs
Prerequisite: ECN 221. Studies the behavior of individual decision making units of the economy. Includes foundations of supply and demand, business behavior based on market structure, regulated business, international trade and finance, and selected current topics. (60-0)

ECN 268W International Studies in Economics 1-4 Sem Hrs
An analysis of foreign economic systems, including the private-public mix, role of international trade, foreign solutions to common economic problems, and specific timely topics. Includes classroom lectures, individual consultation and international field of study. Expenses for field study must be borne by the student. By prior arrangement with appropriate faculty, students may also take International Studies in the following disciplines: GEO 268, MGT 268 (or former GB 268), SOC 268. (60-0)

ECN 290-299 Special Projects in Economics Sem Hr

Education

ED 200AW Exploratory Teaching (Elementary) 3 Sem Hrs
Prerequisites: ENG 111 and ENG 112 with minimum of C+ (2.3); COM 112 or COM 114 (in accordance with transfer institution requirements) with a minimum of C+ (2.3); PSY 211 and MTH 115; and a minimum of 24 credits with a cumulative 2.5 or higher GPA. Frequent consultation with an academic advisor regarding credits applicable to the transfer pre-ed program of choice is strongly urged. Provides aspiring elementary teachers with experience, study and discussion to enable them to make informed career decisions. Requires at least 90 hours of field work in an elementary school, plus at least 15 hours of seminar. Credit may be earned in ED 200A or ED 200B but not in both. (15-90)

ED 200BW Exploratory Teaching (Secondary) 3 Sem Hrs
Prerequisite: ENG 111 and ENG 112 with minimum of C+ (2.3); COM 112 or COM 114 (in accordance with transfer institution requirements) with a minimum of C+ (2.3); PSY 211; and a minimum of 24 credits with a cumulative 2.5 or higher GPA; minimum of 2 courses in planned secondary teaching major and/or minor with at least a C+ in each. Provides aspiring secondary teachers with experience, study and discussion to enable them to make informed career decisions. Requires at least 90 hours of field work in a secondary school, plus at least 15 hours of seminar. Credit may be earned in ED 200A or ED 200B but not in both. (15-90)

ED 201W Education of the Exceptional Child 3 Sem Hrs
Emphasizes the characteristics of exceptional children, including an overview of their educational needs and the approaches of various programs. (45-0)

ED 268 International Studies in Education 1-4 Sem Hrs
Involves the study of one or more aspects of the educational system of a country other than the United States including class lectures and individual consultation. Overseas study is an integral part of the course. Expenses for travel and overseas study must be borne by the student. (60-0)

ED 290-299 Special Projects in Education Sem Hr

Electronic Distribution Design

EDD 130 Electric Distribution Design I 4 Sem Hrs
Prepares an employee with the basic knowledge of electrical distribution equipment and the skills to design and prepare work orders for construction of the basic service facilities through self-study. (72-0)

EDD 132 Electric Distribution Design II 4 Sem Hrs
Prerequisite: EDD 130. Continues the self-study course, Electric Distribution Design I. Prepares an employee with the basic knowledge of electrical distribution equipment and the skills to design and prepare work orders for construction of electric distribution facilities. (72-0)

EDD 290-299 Special Projects in Electronic Distribution Design

Education For Professional Development

EDU 368W Educating for Global Participation 2 Sem Hrs
Prerequisite: Open to all full and part-time faculty and staff and by permission of instructor. Assists educators in various aspects of global education, including exploring the meaning of global education, developing and participating in learning abroad experiences, and discussing how educators can help students, colleagues, and members of the community become more globally educated. Credit may be earned in ED 368 or EDU 368 but not both. (30-0)

EDU 369W Educating for Global Participation with Travel 3 Sem Hrs
Prerequisite: Open to all full and part-time faculty and staff and by permission of instructor. Assists educators in various aspects of global education, including exploring the meaning of global education, developing and participating in learning abroad experiences, and discussing how educators can help students, colleagues, and members of the community become more globally educated. Requires participation in a learning abroad experience. Credit may be earned in ED 369 or EDU 369 but not both. (45-0)

EDU 370W Educating for Global Participation with Module 3 Sem Hrs
Prerequisite: Open to all full and part-time faculty and staff and by permission of instructor. Assists educators in various aspects of global education, including exploring the meaning of global education, developing and participating in learning abroad experiences, and discussing how educators can help students, colleagues, and members of the community become more globally educated. Requires class module or project. Credit may be earned in ED 370 or EDU 370 but not both. (45-0)

EDU 379W Program Assessment 2 Sem Hrs
Prerequisite: EDU 399. Explores the program assessment process at Delta College, while providing a forum for collaboration and development of program assessment projects. Prepares participants for reporting assessment activities through the database, presentation to the Academic Assessment Committee, and sharing with the greater College community. (30-0)

EDU 384 Delta College Staff Ambassador Development 3 Sem Hrs
Provides Delta College staff with an opportunity to learn about the divisions, departments, processes, and systems at Delta College. Explores the contribution of the employee's role to the College mission, vision, and values. Credit may be earned in ED 384 or EDU 384 but not both. (45-0)

EDU 385 Leadership Culture 3 Sem Hrs
Prerequisite: ED 384 and one year Delta College employment. Prepares Delta College employees to enhance their responsibilities by understanding, developing, and demonstrating their leadership skills and abilities. Practices leadership activities in College or community. Explores the focus on worklife contributions within the learning centered organization. Credit may be earned in ED 385 or EDU 385 but not both. (45-0)

EDU 386W Communication in the Classroom 2 Sem Hrs
Prerequisite: Permission of Instructor to register. Focuses on identifying, describing, and then explaining communication between students and between students and instructor. Explores aspects of verbal and nonverbal communication such as impact of voice, facial expression, body language, body movement, and physical proximity. Includes research highlighting the impact of an instructor's communication repertoire on student success. Requires completion of a project focused on development of improved/refined communication strategies for instruction. Credit may be earned in ED 386 or EDU 386 but not both. (30-0)

EDU 387W Reflective Practice: Education for Personal and Professional Growth 2 Sem Hrs
Prerequisites: Open to all full and part-time faculty and staff and by permission of instructor. Explores, in a communal atmosphere of trust and thoughtfulness, the roles of reflection, community, and creativity in the development of meaning and purpose in the personal and professional lives of educators. Explores questions of pedagogical meaning and purpose common to educators, and connects these with practices such as reflective writing, readings in a variety of disciplines, and creativity intended as springboards for personal and classroom applications. Includes a meaningful project such as a series of self-guided readings, an introspective practice like meditation, a journal, memoir, revamped syllabus, set of classroom practices, or other appropriate self-generated project. Credit may be earned in ED 387 or EDU 387 but not both. (30-0)

EDU 388W Exploring Diversity 2 Sem Hrs
Prerequisite: Instructor permission to register. Provides a foundation in knowledge and application of issues and principles surrounding diversity. Provides an opportunity to explore, reflect and practice an interdisciplinary approach to the study of diversity. Credit may be earned in only one of the following: SSI 288, SSI 289, ED 388, ED 389, EDU 388, EDU 389, IHU 280, or IHU 281. (30-0)

EDU 389W Exploring Diversity/With Project 3 Sem Hrs
Prerequisite: Permission of instructor. Provides a foundation in knowledge and application of issues and principles surrounding diversity. Provides an opportunity to explore, reflect and practice an interdisciplinary approach to the study of diversity. Includes completion of project. Credit may be earned in only one of the following: SSI 288, SSI 289, ED 388, ED 389, EDU 388, EDU 389, IHU 280 or IHU 281. (45-0)

EDU 390W Best Practices in Teaching and Learning 3 Sem Hrs
Prerequisite: Instructor permission to register. Addresses topics and skills essential for effective and innovative teaching and learning practices. Explores the dynamics of teaching and learning and provides models, strategies, and options that emphasize active learning and reflective teaching. Credit may be earned in ED 390 or EDU 390 but not both. (45-0)

EDU 391W Academic Service-Learning 1 Sem Hr
Prerequisite: Open to all full and part-time faculty, community service partners, and by permission of instructor. Introduces academic service-learning pedagogy across the disciplines. Develops a service-learning community-based project focusing on course outcomes and/or general education components. Incorporates the essential elements of enhanced academic learning meaningful to the community, and heightened civic engagement; and develops a plan to access all three elements. Credit may be earned in ED 391 or EDU 391 but not both. (15-0)

EDU 393W Understanding Student Learning 2 Sem Hrs
Explores the process of learning and provides fuller understanding of the biological and sociocultural factors that influence human learning. Explores multiple intelligences and learning styles, neurological changes in the brain that accompany learning, cognitive development, motivation, and types of learning goals. Emphasizes the application of learning research to learning situations to encourage and enhance student learning. Credit may be earned in ED 393 or EDU 393 but not both. (30-0)

EDU 394IW Development of Learning Community Interest Groups 3 Sem Hrs

Prerequisite: Open to all full and part-time faculty with permission of instructor. Examines learning communities theories and models most closely resembling Interest Groups (often called Freshman Interest Groups and Clusters at other institutions). Discusses concepts of interdisciplinarity, community, and continuing development and evaluation of Interest Groups both individually as separate learning communities and collectively as a distinct identity. Includes participation in on-line interactive journaling about assigned and recommended readings. Develops a capstone project to plan an interest group learning community. Credit may be earned in ED 394 or EDU 394 but not both. (45-0)

EDU 394W Theory and Pedagogy of Learning Communities 2 Sem Hrs

Prerequisite: Open to all full and part-time faculty and staff. Examines (in classroom seminars and by on-line listserv) learning communities theories and models, including concepts of interdisciplinary and community. Includes participation in on-line listserv interactive journaling about course readings and a capstone project to prepare a syllabus, one or two possible assignments, and at least one means of assessment for a proposed learning community. Designed for faculty, future teachers, and administrators. Credit may be earned in ED 394 or EDU 394 but not both. (30-0)

EDU 395RW Introductory Theory and Methods of Reading Across Disciplines - Research Option 2 Sem Hrs

Prerequisite: Open to all full-time and part-time faculty or by permission of instructor. Introduces theory and practice of reading across disciplines including theories of reading development and strategies improving reading. Provides instruction and support in researching content area reading in individual disciplines. Leads to development of annotated bibliography about reading process and pedagogy in their discipline. Student may earn credit in only one of the following: ED 395R, ED 395, EDU 395R or EDU 395. (30-0)

EDU 395W Introductory Theory and Methods of Reading Across Disciplines 1 Sem Hr

Prerequisite: Open to all full-time and part-time faculty or by permission of instructor. Introduces theory and practice of reading across disciplines including theories of reading development and strategies improving reading. Student may earn credit in only one of the following: ED 395, ED 395R, EDU 395 or EDU 395R. (15-0)

EDU 396PW Facilitating Developmental Learning with project 3 Sem Hrs

Prerequisite: Open to all full and part-time faculty and staff. Explores the process of assisting students in advancing from under-prepared to college-ready. Examines instructional methods conducive to promoting, developing, and sustaining student learning and success throughout the college curriculum. Synthesizes theory with best practices applicable to a variety of disciplines and learning levels. Course includes individual project. Credit may be earned in only one of the following: ED 396P, ED 396, EDU 396P, or EDU 396. (45-0)

EDU 396W Facilitating Developmental Learning 2 Sem Hrs

Prerequisite: Open to all full and part-time faculty and staff. Explores the process of assisting students in advancing from under-prepared to college-ready. Examines instructional methods conducive to promoting, developing, and sustaining student learning and success throughout the college curriculum. Synthesizes theory with best practices applicable to a variety of disciplines and learning levels. Credit may be earned in only one of the following: ED 396P, ED 396, EDU 396P, or EDU 396. (30-0)

EDU 397 Introduction to Distance Learning 3 Sem Hrs

Prerequisites: Open to all full and part-time faculty and staff and by permission of instructor. Teaches strategies for distance education technology, with particular emphasis on instructional design, two-way interactive television (ITV), for application in any field. Credit may be earned in ED 397 or EDU 397 but not both. (45-0)

EDU 398W Writing to Learn 1 Sem Hr

Prerequisite: Open to all full and part-time faculty and by permission of instructor. Introduces theory and practice of "writing to learn," (WTL) including informal writing strategies to promote student response to lectures, readings, fieldwork, labs, discussions, etc.; rehearsal for other activities including discussions and formal writing; reflection on learning progress and problems; and dialogue with peers and instructor. Credit may be earned in ED 398 or EDU 398 but not both. (15-0)

EDU 399AW Classroom Assessment Techniques .5 Sem Hr

Prerequisite: Open to all full and part-time faculty and staff and by permission of instructor. Introduces classroom assessment techniques (CATs) and their use across disciplines. Develops and applies a variety of CATs to formatively assess different types of learning and student development. Credit may be earned in ED 399AW or EDU 399AW but not both. (7.5-0)

EDU 399W Using Classroom Assessment Techniques 2 Sem Hrs

Prerequisite: Open to all full and part-time faculty and staff and by permission of instructor. Introduces classroom assessment techniques (CAT's) and their use across disciplines. Develops and applies a variety of CAT's to formatively assess different types of learning and student development. Includes investigation and development of CAT's as tools for classroom research. Credit may be earned in ED 399 or EDU 399 but not both. (30-0)

Electronic Engineering Tech

EET 120 Digital Circuits 3 Sem Hrs

Prerequisite: MTH 107 or H.S. equivalent. Studies fundamental concepts of digital electronics, including the +5 volt TTL family of integrated circuits, digital number systems, Boolean algebra, Karnaugh maps, combinational logic circuits, counters, latches, flip-flops and shift registers. Introduces basic memory concepts and circuits. (30-30)

EET 215 Electrical Controls and Automation 5 Sem Hrs

Prerequisites: EET 235 with a minimum "C" grade. Studies industrial control logic design and application with emphasis on ladder logic, relay and T-switch logic formats. Uses Modicon micro 84 to study programmable controller logic. Covers 4-layer semiconductors (SCRS-TRIACS-UJTS-PUTS-DIACS), their characteristics and applications. Studies application of electronic control systems to machine processes with emphasis on transducers, I/O interfaces, control processors and output drivers. (60-30)

EET 226 Computer Electronics 6 Sem Hrs

Prerequisite: EET 102 and EET 120. Introduces computer electronics with an emphasis on programming microcontroller computers using the C programming language. Teaches students to design projects that combine hardware and software to create applications that interface microcontrollers to other computers and to analog and digital circuits. (90-0)

EET 230 Soldering Techniques 1 Sem Hr

Develops skill in soldering and printed circuit board fabrication and repair, using commonly accepted industrial practices. Covers safety, chemical handling, contamination of work area, grounding, materials, and waste handling. Producing a functioning printed circuit assembly is required. (8-22)

EET 235 Electrical Circuits 3 Sem Hrs
Prerequisite: MTH 119 or MTH 119A or appropriate assessment scores. Studies DC and AC circuit fundamentals including a general introduction to industrial control concepts. (30-30)

EET 290-299 Special Projects in Electronic Engineering Technology

Engineering

EGR 100 Careers in Engineering 1 Sem Hr
Prerequisite: MATH LEVEL 4. Studies Engineering as a profession as well as a career. Surveys the various fields such as Mechanical, Electrical, Civil, etc. Compares an engineer with a technologist. Reviews work responsibilities, ethics, the work environment, challenges, salaries. (15-0)

EGR 101 Engineering Design and Analysis 1 Sem Hr
Prerequisite: MATH LEVEL 4. Applies critical thinking concepts to engineering problem solving strategies. Uses student work teams to solve a problem or develop a design on paper using the engineering design process. Uses research techniques on the Web or library, brainstorming for idea generation, criterion selection, and presents information in an oral and written format.(15-0)

EGR 165 Introduction to Engineering Graphics 4 Sem Hrs
Prerequisite: MATH LEVEL 4. Studies the graphic language applied to mechanical and civil engineering design. Develops skills in orthographic projection, multi-view drawings, isometric drafting, sectioning, auxiliary views, revolutions, developments, ANSI dimensioning, and tolerancing, annotation and descriptive geometry. Uses computer-aided drafting and analysis. Credit can be earned in EGR 165 or EGR 166 but not in both. (30-60)

EGR 166 Engineering Graphics 4 Sem Hrs
Prerequisite: MATH LEVEL 4 and one year of high school mechanical drafting with final grade of C (2.0) or higher. Studies the engineering graphic language applied to mechanical design, review of multiview and isometric drafting, and the geometry of drawing. Develops skills in using orthographic projections, sectional views, auxiliary views and revolutions. Applies dimensioning to gears, bearings, fasteners, cams, etc. Uses computer-aided methods in drafting and analysis for all topics studied. Credit can be earning in EGR 166 or EGR 165 but not both. (30-60)

EGR 215 Engineering Mechanics, Statics 3 Sem Hrs
Prerequisite: MTH 261 and PHY 211 both with a grade of "C" or better. Develops skill in analyzing machine elements and structures, which are in static equilibrium. Solves forces and moments in 2D and 3D problems using vector calculus, integration, and algebra/trigonometry techniques. Includes concepts of centroids and moments of inertia and applies to mechanical linkages, disks and shafts, beams in bending, screw threads, trusses, frames, and vehicles. (45-0)

EGR 216 Engineering Mechanics: Dynamics 3 Sem Hrs
Prerequisite: EGR 215. Aims at students needing a second course in mechanics for engineers. Covers kinematics and kinetics of particles and rigid bodies in 2D and 3D. Uses force/acceleration, energy and momentum methods and applications to machine elements and structures in mechanical engineering. (45-0)

EGR 221 Engineering Materials 3 Sem Hrs
Prerequisite: CHM 111 and MTH 161 or equivalents. Introduces material classification based on their structure, properties and performance in various applications. Examines the micro and macro structures of metals, polymers, glasses, ceramics and composites and their structural relationship to their properties and performance in various applications Focuses on phase diagrams, microstructural changes caused by solid-state transformations, elastic and plastic behavior, the effects of the environment, and application selection criteria. (45-0)

EGR 235 Circuit Analysis 4 Sem Hrs
Prerequisite: MTH 161. Studies simple electrical components, rules, theorems and laws applicable to AC and DC circuits. Applies Kirchoff's laws, Thevenin's and Norton's theorems, superposition, current and voltage divider rules, etc., Introduces circuit design techniques further study in transient circuits and three-phase power systems. (45-30)

EGR 290-299 Special Projects in Engineering Sem Hr

EGR 320 Mechanics of Materials 3 Sem Hrs
Prerequisite: EGR 215. Considers effects of tension and compression, shear, torsion, bending and buckling loads on structures and machine members and their consequent effects on stress distributions and deformations. Emphasizes design as well as analysis. (45-0)

Electronic Media

EM 180 Digital Cinematography for Film 3 Sem Hrs
Prerequisites: READING LEVEL 2 and WRITING LEVEL 3. Provides basic knowledge of the visual aesthetics of long and short narrative film through film study and hands-on operation of camera and lighting equipment. Introduces concepts such as storyboarding, shot lists, filming and post-production processes using basic editing and color grading techniques. Provides hands-on experience with video equipment and associated accessories to tell a story visually. (20-40)

EM 280 Digital Film Capstone 3 Sem Hrs
Prerequisites: EMB 155 & ENG 258 with a grade of "C" or better. Provides experience in designing and producing digital short and/or partial feature films as part of production teams. Identifies, through teamwork, the specific production and postproduction needs for the projects and evaluates the clarity and quality of the writing, production design, and overall digital film product generated. (15-45)

EM 290-299 Special Projects in Electronic Media

Electronic Media Broadcasting

EMB 140 Electronic Media History 3 Sem Hrs
Prerequisites: READING LEVEL 3 and WRITING LEVEL 3. Concentrates primarily on Broadcasting History, its roots and parentage. Compares relationships between past issues and personalities with those of today. Answers the question: Where do we come from and where are we going as a profession? (45-0)

EMB 141W Fundamentals of Audio Production 2 Sem Hrs
Introduces basic audio production methods and equipment, including non-linear editors, microphones, recorders and supporting hardware. Emphasizes developing comprehension of communication using aural mediums, and the variety of media types and formats available. Introduces the basic production skills necessary for developing audio projects. Uses radio labs and equipment to instruct students in basic elements of audio acquisitions, editing, and production. (15-30)

EMB 151 Media Production I 3 Sem Hrs
Introduces basic video production methods and equipment, including non-linear editors, video cameras and supporting hardware. Emphasizes developing comprehension of communication using visual and aural mediums, and the variety of media types and formats available. Introduces the basic production skills necessary for developing media projects. Uses Television Labs, Studios and equipment to instruct students in basic elements of video and audio acquisition and production. (40-20)

EMB 152 Studio Productions 2 Sem Hrs
Introduces basic television studio production methods and equipment, video cameras, switchers, audio boards, lighting and related hardware. Emphasizes developing comprehension of communication using visual and aural mediums through hands-on learning in professional studio environments. Introduces the basic production skills necessary for developing media projects. Uses television labs and studios to instruct students in basic elements in video and audio acquisition and studio production. (20-40)

EMB 153 Broadcast Performance 3 Sem Hrs
Introduces students to broadcast performance. Emphasizes presentations before microphones and cameras. Examines dress, movement, make-up, lighting, and delivery in such major performance situations as interviews, discussions, newscasts, commercials, and product demonstrations. Credit may be earned in either BRT 153 or EMB 153 but not both. (30-30)

EMB 154 Peripheral Multimedia Applications 2 Sem Hrs
Introduces and familiarizes student with operational elements of digital media, computer operating systems/platforms and peripheral multimedia applications which support and enhance digital non-linear video editing. Concentrates primarily on audio soundtracks, animated text, graphic design and proper compression for delivery to a variety of digital mediums. Emphasizes specific programs within the Macintosh OSX system. (15-30)

EMB 155 Media Production II 4 Sem Hrs
Prerequisites: EMB 151 with minimum grade of "C" (2.0). Builds on the body of knowledge gained in EMB151. Expands the knowledge and skill in composition of images and media, and integration of that media into finished productions. Introduces digital multimedia production, specifically Macintosh Computer systems and Final Cut Pro non-linear editors. Uses both studio and computer editing facilities to refine both audio and video production skills to develop and execute productions. Uses Television, Radio, and computer labs. (45-45)

EMB 161 Podcasting, Online, and Mobile Media 2 Sem Hrs
Introduces and familiarizes student with basic elements and theories of alternative/online forms of multimedia delivery, including audio and video podcasting, mobile media devices, media enhanced blogging and media delivery through video sharing and social networking sites such as YouTube and Facebook. (15-30)

EMB 175W Genres in Film History 3 Sem Hrs
Examines major film styles and genres prevalent through the history of American cinema. Discusses groundbreaking works and popular film styles and analyzes their production values, editing techniques and influences on later films and other media. Researches individual directors and films and presents written critical analysis of technical and influential contributions to filmmaking. (45-0)

EMB 211W Writing for Broadcast & New Media 3 Sem Hrs
Prerequisites: ENG 111or ENG 111A or ENG 111H. Introduces and familiarizes the specialized writing styles in radio, TV, cable, new media and corporate/non-profit production. Includes, but is not limited to, news, promotional announcements, sports and advertisements. Emphasizes and analyzes various writing styles employed in the commercial, non-profit and corporate world and demonstrates that style through frequent writing. Credit may be earned in either BRT 211 or EMB 211 but not both. (45-0)

EMB 227 Broadcast Sales 3 Sem Hrs
Prerequisites: ENG 111 or ENG 111A or ENG 111H. Explores basic marketing concepts in broadcast time and spot sales. Analyzes the psychological, sociological, economic, and communicative aspects of salesmanship as they apply to the broadcast industry. Prepares actual sales presentations for hypothetical clients. Brings practicing professionals in the broadcast sales field to share their experiences with the class. Credit may be earned in either BRT 227 or EMB 227 but not both. (45-0)

EMB 229W Women, Minorities, and the Media 3 Sem Hrs
Prerequisites: Any College Composition I course or higher with a grade of "C" or higher. Examines the depiction of women and minorities in the mass media in contexts including television, film, print, and the Web. Studies media portrayal, employment, ownership, and access. Explores the individual and societal consequences of media representation. (45-0)

EMB 233 Radio News and Programming 3 Sem Hrs
Prerequisites: BRT 155 or EMB 155. Introduces basic elements of Broadcast Radio News producing, reporting, and resources; develops understanding of Radio programming, formats, and differences between commercial and public radio. Produces news and programming projects utilizing analog and digital equipment. Credit may be earned in either BRT 233 or EMB 233 but not both. This course is only offered by individual instruction (please contact the program coordinator for details, 686-9101). (0-60)

EMB 255W Media Production III 4 Sem Hrs
Prerequisites: EMB 152 and EMB 153. Also EMB 155 with "C" (2.0) minimum grade. Refines and utilizes skills gained in Media Production I and II with further instruction to produce and direct finished multimedia productions. Emphasizes producing and directing skills to maximize effectiveness. Produces and directs multimedia productions, including audio and video components, with specific outcomes for specific uses and audiences. Uses Television Studio and Computer labs. (60-30)

EMB 275 DVD Design and Authoring 3 Sem Hrs
Prerequisites: EMB 155. Provides a guide to every aspect of the process of authoring a Digital Versatile Disc. Examines the aesthetic elements involved in the creation of a navigational interface and the management of the video and data file contents of a DVD. Incorporates aspects of graphic design and digital video production to produce and deliver a final project DVD. Introduces DVD authoring software. Credit may be earned in EM 275 or EMB 275 but not both. (15-45)

EMB 277 EMB Portfolio 2 Sem Hrs
Prerequisite: EMB 155 with a grade of "C" or higher. Creates digital media portfolios of original work and traditional resume materials for delivery via DVD, Web, and social media. (10-20)

EMB 279 Advanced Post Production 3 Sem Hrs
Prerequisites: EMB 155 with "C" (2.0) minimum grade or EMB Program Coordinator approval. Builds on the body of knowledge gained in EMB 155. Expands the student's knowledge and skill in non-linear video editing. Introduces advanced digital multimedia compositing and editing techniques and industry standard technologies, such as Apple's Final Cut Pro, Motion, and Adobe After Effects, while providing an overview of the artistic nature of digital compositing. Students will complete a variety of advanced, individual digital video and compositing projects. (30-30)

EMB 281 Electronic Media Broadcasting Internship I 1 Sem Hr
Prerequisites: EMB 151 with "C" (2.0) minimum grade and instructor approval. Provides advanced hands-on experience through internship with approved off-site electronic media company or organization. Requires 5 hours per week under direct supervision of onsite internship coordinator. This course is only offered by individual instruction (please contact program coordinator for details, 686-9473). (0-75)

EMB 282 Electronic Media Broadcasting Internship II 2 Sem Hrs
Prerequisites: EMB 151 with "C" (2.0) minimum grade and instructor approval. Provides advanced hands-on experience through internship with approved off-site electronic media company or organization. Requires 10 hours per week under direct supervision of onsite internship coordinator. (0-150)

EMB 283 Electronic Media Broadcasting Internship III 3 Sem Hrs

Prerequisites: EMB 151 with C (2.0) minimum grade and instructor approval. Provides advanced hands-on experience through internship with approved off-site electronic media company or organization. Requires 15 hours per week under direct supervision of onsite internship coordinator. This course is only offered by individual instruction (please contact program coordinator for details, 686-9473). (0-225)

EMB 284 Producing for Public Broadcasting TV 2 Sem Hrs

Prerequisites: EMB 151 with minimum grade of "C" (2.0) and discipline approval. Provides advanced, practical experience through Delta College's Public Broadcasting facilities. Gives opportunities to produce and assist with productions of on-air broadcast programs. (30-15)

EMB 285 Directing for Public Broadcasting TV 2 Sem Hrs

Prerequisites: EMB 151, EMB 284 both with "C" (2.0) minimum grade, and discipline approval. Provides advanced, practical experience through Delta College's Public Broadcasting facilities. Gives opportunities to direct and assist with productions of on-air broadcast programs. (30-15)

EMB 290-299 Special Projects in Electronic Media Broadcasting

Emergency Medical Service

EMS 110 Basic Emergency Medical Technician I 4 Sem Hrs

Prerequisite: READING LEVEL 2. Requires concurrent enrollment in EMS 111, 112 and 113, and instructor's permission. First in a sequence of four courses to prepare a student as a Basic EMT. Emphasis is placed on Emergency Medical Care, Medical/Legal/Ethical issues, didactic material including airway management, Patient Assessment, and general pharmacology. To successfully pass this course, the student will be required to successfully complete the national registry exam and obtain a state license. Fees for this exam and license are the responsibility of the student. (65-0)

EMS 111 Basic Emergency Medical Technician II 4 Sem Hrs

Requires concurrent enrollment in EMS 110, 112 and 113, and instructor's permission. Second in a sequence of four courses to a prepare student as a Basic EMT. Emphasis is placed on recognition and management of environmental and medical emergencies; verbal, written and radio communications; triage, emergency childbirth; and pediatric emergencies. To successfully pass this course, the student will be required to successfully complete the national registry exam and obtain a state license. Fees for this exam and license are the responsibility of the student. (65-0)

EMS 112 Basic Emergency Medical Technician III 2 Sem Hrs

Requires concurrent enrollment in EMS 110, 111 and 113 and instructor's permission. Third in a sequence of four courses to prepare a student as a Basic EMT. Emphasizes bandaging, splinting, backboarding concerning injuries to the head & spine as well as musculoskeletal systems. To successfully pass this course, the student will be required to successfully complete the national registry exam and obtain a state license. Fees for this exam and license are the responsibility of the student. (32-0)

EMS 113 Basic Emergency Medical Technician Field Experience 2 Sem Hrs

Requires concurrent enrollment in EMS 110, 111 and 112 and instructor's permission. Fourth in a sequence of four courses to prepare a student as a Basic EMT. Requires Clinical rotation for EMT (hospital & ambulance). Successful completion of this course and EMS110, EMS111 and EMS112 enables the student to apply for and take the National Registry exam to qualify for state licensing as a Basic EMT. To successfully pass this course, the student will be required to successfully complete the National Registry exam and obtain a state license. Fees for this exam and license are the responsibility of the student. (0-32)

EMS 290-299 Special Projects in Emergency Medical Service

English

ENG 104W Applied Spelling Techniques 2 Sem Hrs

Emphasizes English spelling patterns and sequences as well as techniques for approaching spelling for adult learners. Shows students how to apply critical thinking strategies to identify and meet their individual spelling needs. (30-0)

ENG 105W English as a Second Language 5 Sem Hrs

Aids the speaker of English as a second language with intermediate and advanced English language skills to communicate in academic and social settings. Includes speaking, listening, reading, composition, non-verbal communication and American culture. (75-0)

ENG 107W Elements of Grammar 2 Sem Hrs

Acquaints or refreshes students with useful, basic grammatical concepts and options in written language. Includes illustration and practice of sentence structure, usage, and punctuation. Strengthens writing skill and language awareness in college or in the work force. (30-0)

ENG 111 College Composition I 3 Sem Hrs

Prerequisite: READING LEVEL 2 and WRITING LEVEL 4. Develops fluent, effective, and confident writers. Practices the process of composing; generating ideas; shaping and evaluating writing. Uses reading and language awareness to further the development of writing. Credit may be earned in only ENG 111, ENG 111A, ENG 111B, ENG 111C or ENG 111H. (45-15)

ENG 111A Writing Methods/College Composition I 3 Sem Hrs

Prerequisite: READING LEVEL 2 and WRITING LEVEL 3. Develops fluent, effective, and confident writers. Practices the process of composing; generating ideas, shaping and evaluating their writing. Uses reading and language awareness to further the development of their writing. This course will transfer to universities and partially fulfill the college's English composition requirement. Credit may be earned in only ENG 111, ENG 111A, ENG 111B, ENG 111C or ENG 111H. (45-30)

ENG 111B College Composition I 3 Sem Hrs

Develops fluent, effective, and confident writers. Practices the process of composing; generating ideas, shaping and evaluating their writing. Uses reading and language awareness to further the development of their writing. ENG 111B is intended to only be taken in a learning community combination. Credit may be earned in one of the following: ENG 111, ENG 111A, ENG 111B, ENG 111C or ENG 111H. (45-15)

ENG 111C Writing Methods/College Composition I 3 Sem Hrs

Prerequisite: READING LEVEL 2 and WRITING LEVEL 3. Develops fluent, effective, and confident writers. Practices the process of composing; generating ideas, shaping and evaluating their writing. Uses reading and language awareness to further the development of their writing. This course will transfer to universities and partially fulfill the college's English composition requirement. ENG 111C is intended to only be taken in a learning community combination. Credit may be earned in only ENG 111 or ENG 111A, ENG 111B, ENG 111C or ENG 111H. (45-30)

ENG 111H College Composition I - Honors 3 Sem Hrs
Prerequisite: READING LEVEL 4 and WRITING LEVEL 4 and permission of the Honors Office. Develops fluent, effective, and confident writers. Practices the process of composing; generating ideas; shaping and evaluating writing. Uses reading and language awareness to further the development of writing. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in only ENG 111 or ENG 111A or ENG 111B or ENG 111C or ENG 111H. (45-0)

ENG 112 College Composition II 3 Sem Hrs
Prerequisite: READNG LEVEL 3 and a "C" grade or better in any approved college level composition I course. Expands abilities and versatility in reading, language awareness, and composing for a range of purposes, audiences, and situations, including academic research writing. Credit may be earned in only ENG 112 or ENG 112A or ENG 112H. (45-0)

ENG 112A Writing Methods/College Composition II 3 Sem Hrs
Prerequisite: READING LEVEL 3 and a "C" grade or better in any approved college level composition I course. Expands abilities and versatility in reading, language awareness, and composing for a range of purposes, audiences, and situations, including academic research writing. This course will transfer to universities and partially fulfill the college's English composition requirement. Credit may be earned in only ENG 112 or ENG 112A or ENG 112H. (45-30)

ENG 112H College Composition II - Honors 3 Sem Hrs
Prerequisite: READING LEVEL 3 and a "C" grade or better in any approved college level composition I course and permission of the Honors Office.. Expands students' abilities and versatility in reading, language awareness, and composing for a range of purposes, audiences, and situations, including academic research writing. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in only ENG 112 or ENG 112A or ENG 112H. (45-0)

ENG 113 Technical Communication 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition I course. Covers techniques for presentation of technical material in formal and informal written reports, letters and other current forms of business and technical communication. Emphasizes general principles used for successful written communication experiences in the professional world and the development of thinking and organizational skills, with specific applications to technical courses or professional case studies. (45-0)

ENG 113A Technical Communication 1.8 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition I course. Covers techniques for presentation of technical material in formal and informal written reports, letters and other current forms of business and technical communication. Emphasizes general principles used for successful written communication experiences in the professional world and the development of thinking and organizational skills, with specific applications to technical courses or professional case studies (27-0).

ENG 113B Technical Commuication 1.2 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition I course. Covers techniques for presentation of technical material in formal and informal written reports, letters and other current forms of business and technical communication. Emphasizes general principles used for successful written communication experiences in the professional world and the development of thinking and organizational skills, with specific applications to technical courses or professional case studies. (18-0)

ENG 115 Mass Media 3 Sem Hrs
Surveys books, newspapers, magazines, recordings, film, radio, television, advertising, public relations and electronics. Includes media history operations, products, current issues and criticisms (45-0)

ENG 116 News Writing 3 Sem Hrs
Prerequisite: ENG 115 or permission of instructor. Studies fundamental principles of gathering information and writing basic news stories. Emphasizes the elements of news, the lead, Associate Press style, news sources and structures of news stories. (30-30)

ENG 120 Introduction to Creative Writing 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition I course. Begins the exploration of personal writing, fiction, drama, and poetry. Focuses on understanding the basics of each genre and practicing them. Includes peer critique, instructor comments, and extensive revisions. (45-0)

ENG 195W Library Research Skills 2 Sem Hrs
Develops information literacy for success with college-level academic research. Credit may be earned in LIB 195W or ENG 195W but not in both. (30-0)

ENG 205 English Internship I 1 Sem Hr
Prerequisite: ENG 116 with a "C" (2.0) minimum grade and discipline approval. Provides advanced hands-on experience through internship with approved off-site employer or organization with multimedia opportunities. Requires 5 hours per week under direct supervision of on-site internship coordinator. (0-75)

ENG 210 English Internship II 2 Sem Hrs
Prerequisite: ENG 116 with a "C" (2.0) minimum grade and discipline approval. Provides advanced hands-on experience through internship with approved off-site employer or organization with multimedia opportunities. Requires 10 hours per week under direct supervision of on-site internship coordinator. (0-150)

ENG 211 Advanced Composition 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition II course or ENG 113 or permission of instructor. Continues to practice forms of academic writing such as the summary, report based upon research, and the analytical essay. Emphasizes writing process and examines the origins and purpose of academic discourse. Approaches may include workshops, conferencing, publication and word processing at the discretion of the instructor. (45-0)

ENG 211H Advanced Composition 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition II course and permission of Honors Program Office . Continues to practice forms of academic writing such as the summary, report based upon research, and the analytical essay. Emphasizes writing process and examines the origins and purpose of academic discourse. Approaches may include workshop, conferencing, publication and word processing at the discretion of the instructor. (45-0)

ENG 213 Advanced Technical Communication 3 Sem Hrs
Prerequisite: ENG 112 or ENG 113 with a "C" (2.0) or better. Provides experience in the written and oral presentation of technical material. Includes practice in professional formal and informal written reports, research in technical, scientific, or medical topics. Strengthens skills in professional level writing style and applications. Practices online research, document production, and technology application. (45-0)

ENG 214 Introduction to Professional Writing 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition II course or permission of instructor. Introduces students to genres unique to professional writers, such as review writing, grant writing, freelance writing, and magazine writing, and will highlight issues of marketability. (45-0)

ENG 216W New Media Writing 3 Sem Hrs
Prerequisite: A college level composition I course with a "C" grade or better, or permission of instructor. Focuses on creating multimedia texts and creatively and appropriately remediating print texts for interactive electronic environments, identifying and selecting the most appropriate media for a given purpose, and writing critically and knowledgeably about issues and questions raised by digital culture. (45-0)

ENG 217 Advanced Reporting 3 Sem Hrs
Prerequisite: ENG 116. Focuses on advanced journalistic techniques and news gathering methods, handling specialized assignments in government, crime, courts, sports, business and education plus editorial columns and entertainment reviews. Class members work on The Delta Collegiate. (30-30)

ENG 230 English Internship III 3 Sem Hrs
Prerequisite: ENG 116 with a "C" (2.0) minimum grade and discipline approval. Provides advanced hands-on experience through internship with approved off-site employer or organization with multimedia opportunities. Requires 15 hours per week under direct supervision of on-site internship coordinator. (0-225)

ENG 253 Creative Writing: Poetry 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition II course. A course in the writing of poetry. Students are encouraged to develop their own poetry writing skills and understanding. In addition to other classroom activities, there are discussions and writing assignments. The instructor may also choose to require analysis of published poetry and criticism. (45-0)

ENG 254 Creative Writing: Fiction 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition II course. Focuses on the writing of prose--chiefly short stories. Encourages students to develop their own writing styles. Includes other classroom activities, discussions and writing assignments, requiring analysis and criticisms of other students' work. (45-0)

ENG 256 Creative Non-Fiction 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition II course or permission of instructor. Requires students to draw on personal experiences and viewpoints to produce a range of writing, and read and respond to published works of creative nonfiction. Includes reading memoirs, autobiographies, journals, essays, and other subjective literary forms. Emphasizes both generating and revising writing. (45-0)

ENG 257 Advanced Creative Writing 3 Sem Hrs
Prerequisites: ENG 253 or ENG 254 or ENG 256. Uses previous background in personal writing, fiction, or poetry. Includes work on style, voice, tone, vision, and other nuances in chosen genre. Includes peer critique, instructor comments, extensive revision, and close study of a contemporary or classic writer in the chosen genre. (45-0)

ENG 258W Introduction to Screenwriting 2 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition I course or permission of instructor. Begins the exploration of screenwriting. Focuses on understanding the basics of the genre, especially formatting and movie planning. Includes peer critique, instructor comments, and extensive revision. (30-0)

ENG 259W Advanced Screenwriting 2 Sem Hrs
Prerequisite: ENG 258W. Builds from skills learned in ENG 258W. Explores character, plot, and dialogue development as they relate to screenwriting. Focuses on the completion of a short film screenplay or first thirty pages of a longer work. Includes peer critique, instructor comments, and extensive revision. (30-0)

ENG 260W Writing Center Practicum 1 Sem Hr
Prerequisite: A "C" grade or better in a college level composition I course or permission of instructor. Presents the theory and principles behind being a peer writing tutor. Requires application of knowledge through tutoring actual students in the Writing Center. (3-12)

ENG 290-299 Special Projects in English Sem Hr

Entrepreneurship

ENT 101 Accounting for Entrepreneurs 3 Sem Hrs
Focuses on small business accounting literacy, financial statement literacy, and decision making. Uses an integrated commercial accounting software package typically used by a small business. Teaches how to process basic accounting events affecting the small business. (45-0)

ENT 131W Entrepreneurship/Small Business Management I 3 Sem Hrs
Provides overview of small business and what is necessary to start a small business including small business in free enterprise, the entrepreneur, opportunities and trends, business plan, legal aspects, location, financing, organizational planning, and marketing. Assists those who are currently operating a small business. Uses case studies throughout the course. Credit may be earned in only one of the following courses: ENT 131, GB 131, or MGT 131. (45-0)

ENT 201 Financial Management for Entrepreneurs 3 Sem Hrs
Prerequisite: ENT 101. MATH LEVEL 4 recommended. Focuses on developing skills for small business financial management. Uses tools and methods to help students prepare and analyze business financial statements, set short- and long-term business goals, and develop decision-making skills. Encourages students to use their own business or start-up concept to evaluate profitability, cost-volume-profit, forecasting, and working capital management. (45-0)

ENT 221W Law for Entrepreneurs 3 Sem Hrs
Prerequisites: READING LEVEL 4 or 5B and WRITING LEVEL 4 or 4B or instructor permission. Provides a legal framework for individuals planning to start their own business. Studies particular areas of law including sources of law, the court system, government regulation, international trade laws, intellectual property, contracts, sales, and employment law. (45-0)

ENT 231W Entrepreneurship/Small Business Management II 3 Sem Hrs
Prerequisite: ENT 131; and ACC 121 (or ACC 211 with instructor permission). Must also enroll in MGT 243. Strengthens the entrepreneurial and management skills of those who are already in (or who may enter) business for themselves. Uses small business case studies extensively. Credit may be earned in only one of the following courses: ENT 231W, ENT 132, GB 132, or MGT 132. (45-0)

ENT 290-299 Special Projects in Entrepreneurship

Environmental Science

ENV 100W Environmental Regulations 3 Sem Hrs
Presents an overview of the regulations that are related to environmental protection, including OSHA regulations, Clean Air Act, SARA, RCRA and similar regulations. Provides an awareness of why the regulations exist, how they are enforced, penalties for noncompliance, and practical experience in interpretation of the regulations. (Cannot be counted toward Natural Science credit). (45-0)

ENV 105 Introduction To Environmental Health & Safety 3 Sem Hrs
Introduces students to the safety requirements and regulations needed to successfully direct a safety program on an industrial site. (45-0)

ENV 130W Pollution Prevention 1 Sem Hr
Provides a study of protecting the environment, reducing waste generation, environmental compliance, preventing future liability associated with non-compliance and improper disposal of hazardous wastes, and improving profitability of an operation through pollution prevention techniques and practices. (15-0)

ENV 151W HAZWOPER Training 2.7 Sem Hrs
Involves hands-on training in the use of personal protective equipment, monitoring and sampling techniques, and decontamination techniques relative to hazardous materials in the workplace. Emphasizes rationale for following specific procedures, evaluations, relative merits of equipment and materials used. Establishes criteria for evaluation of field experience. Meets requirements of 40 hour HAZWOPER training. May be offered through Delta College Corporate Services or credit by prior experience as reviewed by the Science Division. (Cannot be counted toward Natural Science credit.) (40-0)

ENV 152 Emergency Response to Industrial Spills 1.6 Sem Hrs
Provides mandated training (24 hours) for emergency response to industrial spills, including use of protective equipment, sampling techniques, and decontamination methods. May be offered through Delta College Corporate Services or credit by prior experience as reviewed by the Science Division. (Cannot be counted toward Natural Science credit.) (24-0)

ENV 153 Confined Space Training 1.3 Sem Hrs
Provides mandatory training (20 hours) required for confined space entry relative to hazardous materials spills and contamination in the industrial sector. Includes protocols, monitoring methods, types and use of protective gear, and communication methods necessary to protect workers in potentially hazardous confined space. May be offered through Delta College Corporate Services or credit by prior experience as reviewed by the Science Division. (Cannot be counted towards Natural Science credit.) (20-0)

ENV 154 Hazardous Materials Shipping and Handling 0.4 Sem Hr
Provides training pertinent to the mandatory protocols for the shipping and handling of hazardous materials, including packaging, labeling documentation, and placarding. May be offered through Delta College Corporate Services or credit by prior experience as reviewed by the Science Division. (Cannot be counted towards Natural Science credit.) (6-0)

ENV 290-299 Special Projects in Environmental Science Courses

ENV 310W Environmental Site Assessments 3 Sem Hrs
Provides overview of standard methods for assessing recognized environmental conditions affecting commercial real estate. Covers standard procedures that aid in the environmental assessment of properties for potential legal and economic impacts of pre-existing environmental conditions. Includes legal responsibilities, financial penalties, safe working conditions, and legally accepted standard procedures for environmental site assessment. Emphasizes ASTM Phase I & II including analysis of case studies. Includes participation in an environmental site assessment. (45-0)

ENV 320W Environmental Management Systems 3 Sem Hrs
Provides a systematic method of assessing an organization's environmental aspects that protect the environment and the organization from fines and other regulatory penalties. Identifies and addresses environmental issues through standardized environmental management systems. Focuses on ISO 14000 environmental management standards. (45-0)

Electrical Technology

ET 110W DC Electrical Fundamentals 3 Sem Hrs
Prerequisite: Any approved Physics with a grade of "C" or better. Introduces basic electrical theory and the components that make up electrical circuits. Includes resistive, capacitive, and inductive components in series and parallel, DC combinations, Ohm's Law, Kirchhoff's current and voltage laws, the voltage divider rule, and RC time constants. Uses a digital multimeter and oscilloscope to build and troubleshoot DC circuits Includes but is not limited to basic circuits, electrical components and their applications; covers hands-on reinforcement of theory during lecture. (30-30)

ET 120 AC Electrical Fundamentals 3 Sem Hrs
Prerequisite: Any Physics course with a grade of "C" or better. Analyzes and measures electrical circuits. Examines properties of voltage and current, and describes transformer characteristics. (30-30)

ET 122 Programmable Logic Controllers 4 Sem Hrs
Prerequisite: ET 130 with a grade of "C" or better. ET 130 may be taken concurrently with instructor permission. Introduces programmable logic controllers (PLCs) along with the interface to hydraulic/pneumatic systems and sensors. Focuses on the underlying principles of how PLCs work and provides knowledge and hands-on training to program, modify, interface, troubleshoot, and maintain PLC systems both on- and off-line. Emphasizes a hands-on approach to system analysis, critical thinking, solutions to open-ended problems, and computer usage and teamwork. Demonstrates proper safety techniques and proper use of personal protective equipment. No previous knowledge of PLC systems or programming is required. Credit may be earned in ET 122 or SKEL 122 but not both. (30-30)

ET 130 Advanced Electrical Applications 3 Sem Hrs
Prerequisite: ET120 with a grade of "C" or better: Identifies motor components for a practical application. Develops skills of motor control wiring, connection diagrams, and ladder diagrams while complying with National Electric Code requirements. Applies knowledge to select, connect, and configure an electrical motor application. (30-30)

ET 140 Fundamentals of Electrical Motors and Motor Controls 3 Sem Hrs
Prerequisite: ET120 with a grade of "C" or better: Introduces the theory and application of AC and DC electrical machines and their controls. Includes DC generators, DC motors and controls, 3-phase power, 3-phase transformers, alternators, 3-phase and single phase AC motors and controls, electronic motor drives, synchronous motors, servo motors, and stepper motors. Configures, installs, and operates direct current and alternating current motors. (30-30)

ET 162 Industrial Robotics I 3 Sem Hrs
Prerequisites: ET 120 or EET 235; Studies modern industrial robotic systems. Introduces the operation, use and safety of industrial robots. Includes feedback mechanisms, actuators, sensors, power supplies, micro-controllers, P.C. computer control and programming. Emphasizes a hands-on approach to system analysis, critical thinking, solution to open-ended problems, computer usage, and teamwork. Credit may be earned in ET 162 or SKET 162 but not both. (15-30)

ET 164 Robotics Electrical Service & Troubleshooting 3 Sem Hrs
Prerequisites: ET 120 and MT 220; Identifies the electrical components of robots, theory of operation. Introduces proper troubleshooting procedures for the robot controller and manipulator. Approximately 50 percent of the course is hands-on troubleshooting of actual robot system and controller. Credit may be earned in ET 164 or SKET 164 but not both. (15-30)

ET 262 Industrial Robotics II 3 Sem Hrs
Prerequisite: ET 162. Emphasizes programming, advanced manipulation, grip load instructions, velocity and acceleration instruction, offline editing, handling errors, and robot configuration. Discusses programming concepts and structures in the C+ programming language, industry-like applications and system integration projects. Emphasizes a hands-on approach to system analysis, critical thinking, solutions to open-ended problems, computer usage, and teamwork. Credit may be earned in ET 262 or SKET 262 but not both. (15-30)

French

FR 111 French One 4 Sem Hrs
Introduces basic grammatical structures and vocabulary of modern spoken and written French and to correct pronunciation patterns by means of oral-aural practice, small group interaction, reading of simple texts, and written exercises. Introduces certain aspects of francophone culture and to the differences between the French and the English languages. Expects supplemental (outside of class) listening, reading, speaking, and writing using ancillary materials and the textbook's Internet site. (60-0)

FR 112 French Two 4 Sem Hrs
Prerequisite: FR 111 with a grade of "C" or better, or one semester of college-level French, or one year of high school French, or permission of instructor. Continues to introduce students to the basic grammatical structures and vocabulary of modern spoken and written French and to correct pronunciation patterns by means of oral-aural practice, small group interaction, reading of simple texts, and written exercises. Continues to introduce students to certain aspects of francophone culture and to the differences between the French and English languages. Expects supplemental (outside of class) listening, reading, speaking, and writing using ancillary materials and the textbook's Internet site. (60-0)

FR 211W French Three 4 Sem Hrs
Prerequisite: FR 112 or two semesters of college-level French, or two years of High School French, or permission of instructor. Continues to introduce students to the basic grammatical structures and vocabulary of modern spoken and written French and to correct pronunciation patterns by means of oral-aural practice, small group interaction, reading of simple texts, and written exercises. Continues to introduce students to certain aspects of francophone culture and to the differences between the French and the English languages. Conducts class in French as much as possible. Expects supplemental (outside of class) listening, reading, speaking, and writing work using ancillary materials and the textbook's Internet site. (60-0)

FR 212W French Four 4 Sem Hrs
Prerequisite: FR 211, or three semesters of college-level French, or three years of High School French, or permission of instructor. Instructs at the Intermediate level in French. Increases and expands vocabulary through a review of grammar covered in previous courses. Increases written and verbal accuracy and fluency, and increases ability to understand written and spoken French. Provides the opportunity to deepen cultural awareness and sensitivity, and awareness of the cultural richness and diversity that characterizes the Francophone world. Expects supplemental (outside of class) listening, reading, speaking, and writing work using ancillary materials and the textbook's Internet site. (60-0)

FR 290-299 Special Projects in French Sem Hr

Fire Science Technology

FST 101W Introduction to the Fire Service 3 Sem Hrs
The student will analyze national fire problems, examine fire prevention procedures, identify fire fighters equipment, interpret fire codes and standards, recognize transportation hazards, study wild-fire methods, work with outside fire agencies, identify citizen responsibility, and study future fire problems. (45-0)

FST 102W Fireground Tactics 3 Sem Hrs
Prerequisite: FST 101 or FST 112. Analysis of basic rules of fire fighting strategy, defining engine company responsibilities, determining ladder company functions, correlating MUTUAL AID fires, and general fire problems will be included. (45-0)

FST 103W Building Construction 3 Sem Hrs
Provides a comprehensive look at the methods and practices employed in residential construction as it pertains to fire science. Structural design, blueprints, building materials, and mechanical considerations are covered. (45-0)

FST 104W Arson Awareness 3 Sem Hrs
A comprehensive study of national, state and local arson problems. Examines the local fire department role in reducing arson related fire losses. Examines the duties of and assistance provided by governmental agencies and the private sector. Analyzes local fire statistics to enable the development of an arson data system. Develops effective arson mitigation strategies. (45-0)

FST 105W Hazardous Materials/Emergency Responder 3 Sem Hrs
A comprehensive study of the physical, chemical, and toxicological characteristics of hazardous materials needed to safely and productively address emergency situations that can occur with these substances. (45-0)

FST 107W Fire Protection Systems I 3 Sem Hrs
A comprehensive study of fire protection systems in buildings. Include design, blueprints, inspection and maintenance of automatic sprinkler systems, standpipe systems, special automatic extinguishing systems, smoke control systems, automatic and manual fire alarm systems, rated fire assemblies and other protection found in structures that help retard the propagation of fire. (45-0)

FST 111 Fire Fighter IA 6 Sem Hrs
FST 111 and FST112 must be taken together. Prepares a participant to test for MFFTC certification as Fire Fighter I based on the Michigan Fire Fighters Training Council IFSTA curriculum. Contains an in-depth menu of information and exercises that meet the National Fire Protection Association (NFPA) 1001 standard. (90-0)

FST 112 Fire Fighter IB 6 Sem Hrs
FST111 and FST 112 must be taken together. Continues to investigate the Michigan Fire Fighters Training Council IFSTA curriculum and prepares a participant to test for MFFTC certification as Fire Fighter I. Contains an in-depth menu of information and exercises that meet the National Fire Protection Association (NFPA) 1001 standard. (90-0)

FST 114 Firefighter Safety and Survival 0.8 Sem Hr
Increases awareness of seriousness of firefighter injury/death problem; identifies firefighter responsibility for reducing injuries and deaths, and provides information to improve safety considerations through all aspects of a company officer's job. (12-0)

FST 115 Managing Company Tactical Operations: Preparing (MCTO:P) 0.8 Sem Hr
Provides basic foundation for management of one or more companies operating at a structural fire emergency. Focuses on basic concepts: Roles and Responsibility, Readiness, Communication, Building Construction, Fire Behavior and Pre-incident Preparation. (12-0)

FST 116 Building Construction Principles 0.8 Sem Hr
Improves student's ability to assess building stability and resistance to fire through an understanding of principles in construction type, alterations, design, and materials that influence a building's reaction to fire. (12-0)

FST 117 Managing Company Tactical Operations: Decision Making (MCTO:D) 0.8 Sem Hr
Prepares Fire Officers and Crew Leaders for appropriate response, decision making and tactical operations of one or more companies in structural fire fighting. (12-0)

FST 118W Records and Reports 0.4 Sem Hr
Introduces various records and reports the fire officer will encounter: describes and demonstrates selected standard procedures in compiling information and exposes student to methods of writing and presenting reports. (6-0)

FST 120W Fire Service Educational Methodology 1 Sem Hr
Develops skill in preparing instructional objectives, designing effective lesson plans, developing evaluation instruments, and creating state-of-the-art media. (15-0)

FST 133W Computer Aided Management Emergency Operations 3 Sem Hrs
Emphasized the use of Computer Aided Management of Emergency Operations (CAMEO), Areal Locations Of Hazardous Atmosphere (ALOHA), and Mapping Applications for Response and Planning of Local Operational Tasks (MARPLOT) software which provides a tool to manage emergency response, emergency planning and regulatory compliance of hazardous substance in or near their communities. Focuses on basic and advanced applications to provide computer skills to individuals, response teams and first responders to plan for the safe handling of chemical accidents. (45-0)

FST 202W Fire Officer I 5 Sem Hrs
Prerequisite: FST 211 and FST 301. Presents "real world contemporary issues" that pose a challenge to supervisory leadership skills of the first line officer. Involves administrative and operational issues at the company/organizational level. Stimulates critical and creative thought process toward what we should be doing versus what we are actually doing as company officers. (60-15)

FST 203W Fireground Management 3 Sem Hrs
Prerequisite: FST 102 or FST 112. A comprehensive study of the roles of the fireground commander including positioning the command post, equipment, and personnel on the scene, strategies for staging and sectoring operations along with command procedures and maintaining communications on the fireground. (45-0) (Every other year)

FST 204 Fire Service Instructional Methodology 3 Sem Hrs
Provides an opportunity to learn how to effectively organize and teach a lesson or course following the criteria in NFPA's Fire Service Instructional Professional Qualifications Level I (Standard 1041). (45-0)

FST 205W Hazardous Materials/Emergency Operations 3 Sem Hrs
Prerequisite: FST 105. A comprehensive study of chemical transportation containers, emergency response equipment, and emergency response procedures needed to safely and productively address emergency situations that can occur with hazardous materials. (45-0)

FST 206 Confined Space Management & Rescue 4 Sem Hrs
Provides participants with the knowledge and skills to minimize or eliminate hazards associated with entry into a permit required confined space. Focuses on OSHA 29 CFR 19190.146 and Michigan Department of Commerce and Industrial Services 325.3001 standards regulating the roles of entry supervisor, entrant, attendant and rescuer. Includes non-permit confined spaces hazards and entry conditions. Includes a hands-on entry and rescue simulation workshop. (45-15)

FST 207W Fire Protection Systems II 3 Sem Hrs
Prerequisite: FST 107. A comprehensive study of fire protection system in buildings. Includes design standards, conducting plan review, inspection, testing and maintenance of fire alarms, automatic detection devices, manual devices, automatic sprinklers, foam-water, water spray, standpipe, water supply and automatic chemical agent systems. (45-0)

FST 208W Fire Officer II 3 Sem Hrs
Prerequisite: FST 202. Focuses on highly specialized and complex technical issues the company officer must confront. Presents the inner workings and dynamics of a typical fire service organization. Involves decision making matrix process that embraces administrative functions and strategic planning of a mid-level company officer. Prepares the company officer in the management of multi-unit response operations; water supply, staging, safety, division/sector, exposure protection and unified command functions. (45-0)

FST 211 Fire Fighter II 4 Sem Hrs
Prerequisite: FST111 & FST112. Prepares a participant to test for MFFTC certification as Fire Fighter II based on the Michigan Fire Fighters Training Council IFSTA curriculum. Contains an advanced in-depth menu of information and exercises that meet the National Fire Protection Association (NFPA) 1001 standard. (60-0)

FST 213 Managing Company Tactical Operations: Tactics (MCTO:T) 0.8 Sem Hr
Prerequisite: FST117. Examines rescue and ventilation, confinement and extinguishment, water supply, exposures and defensive operations, and salvage, overhaul, and support. Concludes with a major fire simulation activity. (12-0)

FST 214 Arson Detection for the First Responder 0.8 Sem Hr
Provides clear definition of the role of initial responder organizations, and essential knowledge to enable them to recognize the potential of an intentionally set fire, preserve evidence, and properly report the information to appropriate officials. (12-0)

FST 215 Introduction to Fire Inspection Principles and Practices (IFIPP) 2 Sem Hrs
Advances professional development of fire service personnel in conducting fire prevention inspections and the rapid changes in the field of fire prevention technology. Includes code enforcement, inspection techniques, common and special hazards, behavior of fire, building construction, fire protection systems and life safety features. (30-0)

FST 216 Building Construction Non-Combustible/Fire Resistive 0.8 Sem Hr
Improves ability of students to assess building stability and resistance to fire while improving operational effectiveness. Includes structural material, principles of fire growth, smoke movement and special problems. (12-0)

FST 217 Fire Service Supervision: Personal Effectiveness 0.8 Sem Hr
Presents current research on management, leadership, stress, and time management and shows how to adapt information presented to personal specific management context. (12-0)

FST 218 Fire Service Supervision: Team Effectiveness 0.8 Sem Hr
Demonstrates how communication, motivation, counseling, and the principles of conflicts resolution and group dynamics may be used to promote efficient group functioning and member satisfaction. (12-0)

FST 219 Fire Protection Hydraulics & Water Supply 3 Sem Hrs
Prerequisites: FST 211 and MATH LEVEL 4. Provides a foundation of theoretical knowledge in order to understand the principles of the use of water in fire protection and to apply hydraulic principles to analyze and to solve water supply problems. (45-0)

FST 219L Fire Protection Hydraulics & Water Supply Lab 1 Sem Hr
Prerequisite: FST 211 and MTH LEVEL 4 and Concurrent enrollment in FST 219. Applies theoretical knowledge in a lab environment, through hands-on operation of pumping apparatus. (0-15)

FST 220 Strategy & Tactics for Initial Company Officer 1 Sem Hr
Meets the needs of company officers responsible for managing the operations of one or more companies during structural firefighting operations. (15-0)

FST 224W Fire Investigation 3 Sem Hrs
An in-depth basic course which defines successful methods for conducting fire investigations. Specific topics include basic chemistry of fire, point of origin and fire cause, both accidental and incendiary, motivation of the firesetter, fire scene investigation, evidence collection, photography, follow-up investigation and court presentation. (45-0)

FST 230 Fire Safety Education 3 Sem Hrs
A comprehensive study of national state and local fire safety education program strategies. Implementation of the five step planning process at the local level. Development of skills necessary to organize, plan and use sound management of financial, material, and human resources to reach designated goals and objectives, to address the demonstrated fire safety education needs of the local community. (45-0) (Every other year)

FST 231 Fire Service Law 3 Sem Hrs
Basic introduction to the legal considerations that can affect the professional lives of members of the fire service, fire service-related occupations, and those who aspire to careers in the fire service. (45-0) (Every other year)

FST 240 Internship in Fire Science 2 Sem Hrs
Prerequisite: Minimum 15 credits in Fire Science courses and faculty permission. Provides the opportunity to observe and practice technical applications in the field. (0-100)

FST 280W Company Officer 1 & 2 4 Sem Hrs
Prerequisite: FST 115, FST 117, FST 120, FST 211, FST 220, FST 301, FST 307. Focuses on highly specialized and complex technical issues the company officer must confront. Presents the inner workings and dynamics of a typical fire service organization. Involves decision making matrix process that embraces administrative functions and strategic planning of a mid-level company officer. Prepares the company officer in the management of multi-unit response operations; water supply, staging, safety, division/sector, exposure protection and unified command functions. Credit may be earned in FST 280 or the combination of FST 202 and 208 but not in both. (60-0)

FST 290-299 Special Projects in Fire Science Technology

FST 300W Fire Officer III 3 Sem Hrs
Provides basic leadership skills for personal, company and supervisory success. Includes health and safety risk management, program implementation, and incident management system. Credit may be earned in either FST 300 or FST 302, 303, 304, and 305 combined. (45-0)

FST 301 Incident Command System 1 Sem Hr
Focuses on the fire officer's and manager's responsibilities to use, deploy, implement, and/or function within a department Incident Command System. (15-0)

FST 302 Leadership I Strategies for Company Success 1 Sem Hr
Presents the basic leadership skills and tools needed to perform effectively in the fire service environment. Includes techniques and approaches to problem solving, ways to identify and assess the needs of the company officer's subordinates, methods for running meetings effectively, and decision-making skills. Credit may be earned in either FST 300 or FST 302, 303, 304, and 305 combined. (15-0)

FST 303 Leadership II Strategies for Personal Success 1 Sem Hr
Provides the basic leadership skills and tools needed to perform effectively in the fire service environment. Includes ethics, use and abuse of power, creativity, and management of the multiple roles of a leader. Credit may be earned in either FST 300 or FST 302, 303, 304, and 305 combined. (15-0)

FST 304 Leadership III Strategies for Supervisory Success 1 Sem Hr
Provides the various leadership skills and tools to perform effectively in the fire service environment. Includes delegation to subordinates, assessment of personal leadership styles through situational leadership, discipline, coaching and motivating techniques. Credit may be earned in either FST 300 or FST 302, 303, 304, and 305 combined. (15-0)

FST 305 Firefighter Health and Safety: Program Implementation & Management 1 Sem Hr
Focuses on the problem of firefighter health and safety, and the design and implementation of a departmental safety program. Includes command issues, policies and programs addressing health and safety in emergency situations. Credit may be earned in either FST 300 or FST 302, 303, 304 and 305 combined. (15-0)

FST 306 Shaping the Future 1 Sem Hr
Focuses on the skills and techniques that a mid-level manager needs to provide leadership and direction in the fire service. Includes discussions on the use of environmental scanning as a tool, the concepts of paradigm shifts, and methods to reframe problems accurately. (15-0)

FST 307 Incident Safety Officer 1 Sem Hr
Focuses on the increasing awareness to a wide variety of emergency situations. Teaches what a safety officer at an incident needs to know using scenarios to convey instructional points. (15-0)

FST 308 Health and Safety Officer 1 Sem Hr
Examines the role of the Health and Safety Officer in policy and procedure issues that affect the health and safety of emergency responders; emphasizes risk analysis, wellness, program management, and other occupational safety issues. (15-0)

FST 332W Advanced Fire Administration 3 Sem Hrs
Examines the organization and management of the fire service. Discusses new technologies, deployment of resources available, personnel and equipment costs, municipal fire protection planning, statistics and reporting systems, training and finances. (45-0)

FST 334W Fire Prevention Organization & Management 4 Sem Hrs
Presents an overview of history, philosophy, techniques, procedures, programs of private and public agencies involved with fire prevention, organization and administration of code enforcement, licenses, permits, zoning, inspections, investigations, education and analysis of statistics. Includes off site field trips. (45-15)

FST 338W Contemporary Issues In The Fire Service 3 Sem Hrs
Examines issues having impact on the fire service to include past, present and future concerns and trends. Discusses current political, policies, practices, deployment and events within the fire service and related professions and technologies. (45-0)

German

GE 111 German One 4 Sem Hrs
Acquisition of proper pronunciation, basic grammatical structures and vocabulary of modern spoken and written German by means of oral practice, reading or simple texts, and written exercises. (60-0)

GE 112 German Two 4 Sem Hrs
Prerequisite: GE 111 or one year of high school German. A continuation of GE 111. (60-0)

GE 211 German Three 4 Sem Hrs
Prerequisites: GE 111 and GE 112. Applies the important grammar rules that have been used and practiced in German One and German Two. Reviews in depth the context of conversation exercises, reading excerpts of contemporary original literacy and journalistic pieces. Exposes students to the living spoken and written language to develop a feeling for the language, which is quite necessary for such a complicated language as German. (60-0)

GE 212 German Four 4 Sem Hrs
Prerequisites: GE 111, GE 112 and GE 211. Applies the important grammar rules that have been used and practiced in German One, Two, and Three. Reviews in depth the context of conversation exercises, reading excerpts of contemporary original literacy and journalistic pieces. Provides exposure to the living, spoken and written language to develop a feeling for the language. (60-0)

GE 290-299 Special Projects in German Sem Hr

Geography

GEO 103W Introduction To Meteorology 4 Sem Hrs
Prerequisite: MATH LEVEL 3. Provides study of the fundamentals of weather including the underlying physical processes of the atmosphere, general circulation, weather patterns, and severe weather events. Develops an understanding of weather map analysis and forecasting. Uses extensive laboratory applications related to atmospheric study including graphing, drawing isopleths, data analysis, and access to real-time weather information. (45-15)

GEO 111 Physical Geography 4 Sem Hrs
Studies the natural environment which is important to people and their activities; introduction to maps and physical features; earth-sun-moon relationships; earth materials, land forms; drainage; and major natural resources. Introduces weather and climate, soils and vegetation -- their character, causes, significance and distribution. (45-30)

GEO 113W World Cultural Geography 4 Sem Hrs
Examines essential geographic characteristics and concepts of selected cultural regions of the world. Compares and contrasts these regions in terms of their present and potential development using examples from both the western and non-western world. (60-0)

GEO 116W Professional Global Awareness 1 Sem Hr
Heightens awareness of cross-cultural understandings. Develops strategies in building business relationships in the global market. (15-0)

GEO 222 Geography of Asia 3 Sem Hrs
Regional geographic interpretation of the area as a continent. Study of relationships of physical, economic, social and political environment activity. (45-0)

GEO 223 Geography of Europe 3 Sem Hrs
Similar to Geography 222 but applied to Europe. (45-0)

GEO 226 Geography of United States and Canada 3 Sem Hrs
Similar to Geography 222 but applied to the United States and Canada. (45-0)

GEO 255W Third World Development 4 Sem Hrs
Using a multidisciplinary approach, describes and analyzes processes and conditions which created and maintain the "Third World." Addresses population, physical environment, historical, political, social and economic factors. Explores and applies current concepts and development theories. Credit may be earned in GEO 255 or SOC 265, but not in both. (60-0)

GEO 260 Geography of the Pacific Islands 3 Sem Hrs
Prerequisite: Permission of the instructor. A regional geographic interpretation of the Pacific Islands emphasizing their physical, environmental and cultural patterns, and their economic development. Study will focus on three subregions: Polynesia, Melanesia and Micronesia. Field work in the Pacific Islands will be required. Students must pay own expenses. (45-0)

GEO 261 Geography of Caves & Karst Topography 1 Sem Hr
Study focuses on the role of solution in forming caves and in landscape formation (karst topography). Formation of stalactites, stalagmites, flowstones and other crystal formations are also studied. Students are required to participate in weekend field trip to Mammoth Cave National Park, Kentucky. Students must pay own expenses. (15-0)

GEO 262 The Geography of the Canadian Shield 1 Sem Hr
Focuses on the interrelationships between humans and the physical environment of this, the largest of the landform provinces of Canada. Major topics include the physical environment, natural resources, recreation, and settlement patterns. Required classroom work, travel and field research will help the students to develop their understanding of this wilderness area. Student must pay own expenses for field trip. (15-0)

GEO 267 Geography of Continental Glaciation 1 Sem Hr
Reviews the causes and consequences of continental glaciation. Topics include climatic change, past and present distribution of continental glaciers and landscape features formed by glaciation. The possibility of the world entering another "Ice Age", will also be discussed along with what social modifications might be necessary if this should happen. Field work in a glaciated area will be included. Students must pay own expenses. (15-0)

GEO 268 International Studies In Geography 1-4 Sem Hrs
Provides a geographic interpretation of selected world regions. Emphasis on the region's physical and cultural environments. Includes class lectures, individual consultation, and international field study. Expenses for the field study are the responsibility of the student (15-60,0)

GEO 290-299 Special Projects in Geography Sem Hr

Geographic Information Systems

GIS 101 Geographic Information Systems 3 Sem Hrs
Prerequisite: CST 133 or equivalent skills. Must have instructor permission to register. Examines the fundamentals of geographic information systems. Requires the collection, manipulation and representation of data gathered in the field and from downloads. Introduces a wide variety of fields needed to gather or work with GIS based technology. (45-0)

GIS 102 Geographic Information Systems II 3 Sem Hrs
Prerequisite: GIS 101 with "C" (2.0) minimum grade, or equivalent skills. Continues the examination of GIS concepts and fundamentals. Applies concepts from GIS 101 in the context of solving spatial problems. Reinforces concepts and techniques needed in a wide variety of fields to be able to work with GIS based technology. Develops the skills needed to apply GIS knowledge to everyday life and their chosen careers. (45-0)

GIS 290-299 Special Projects in Geographic Information Systems

Geology

GLG 102 Volcanoes and Earthquakes 1 Sem Hr
A study of the internal dynamics of the earth. Major topics will include: catastrophic events in historic times, products of vulcanism, volcanic rocks, vulcanism and geothermal energy, relationship to earthquakes and volcanoes to plate tectonics, interpretation of earthquake records, man-made earthquakes, earthquake prediction and control. (15-0)

GLG 111 Physical Geology 4 Sem Hrs
Study of the overall structure of the earth and the rocks which form the crust. An introduction to the processes of erosion and weathering caused by the work of natural agents such as water and ice. Discussion of Plate Tectonic Theory and implications. Laboratory study of common rocks, minerals and selected fossils. Field trips optional. (45-30)

GLG 112 Evolution of the Earth 4 Sem Hrs
Prerequisite: GLG 111. Study of the history of the Earth as recorded in rocks. Description of continental structural development in terms of plate tectonics using North America as the principal example. Origin and evolution of life. Laboratory work includes studies of invertebrate fossils and geologic map interpretation. Field trips optional. Formerly called Historical Geology. (45-30) (Odd numbered years only)

GLG 115 Introduction to Oceanography 3 Sem Hrs
Explores how the ocean stabilizes the Earth's surface environment. Includes global temperature distributions, El Nino events, ozone depletion, and global warming. Considers the origins and evolution of the ocean basins, currents, circulation patterns, and physical and chemical properties of seawater. Investigates the impact of humans on the marine environment, including shoreline changes, pollution effects, and extraction of natural resources. May include optional field trip to view shoreline features of the Great Lakes. (45-0)

GLG 118 Geology and Dinosaurs 4 Sem Hrs
Designed for non-science as well as science majors who are interested in the basic principles of geology and in the study of dinosaurs. Introduces the student to the physical earth, its rocks, minerals, and external processes. Examines the theory of Plate Tectonics and the changing shape of the continents during the time of dinosaurs. Investigates the concepts of geologic time, evolution, and fossilization as related to the study of dinosaurs. Reviews new and controversial theories, including dinosaur extinction, metabolism, and behavior. Optional field trip to view museum specimens. Credit may be earned for GLG 117 or GLG 118 but not both. (45-30)

GLG 119 Introduction to Field Paleontology 3 Sem Hrs
Introduces basic skills and techniques of the field paleontologist. Reviews the history and development of field paleontology. Emphasizes where to locate various fossils and the likelihood of preservation. Teaches proper documentation skills and other methods of recording fossil finds. Covers the use of plaster casts, glues, and extraction tools practiced in a field setting. Field trip required. Students must pay own expenses. (45-0)

GLG 122 Geology of Michigan 3 Sem Hrs
An interpretation of the origin and characteristics of the principal geological features of Michigan through the application of basic geological principles. Includes some identification of rocks, minerals and fossils. Occasional field trips. (45-0)

GLG 123 Geology of the Great Lakes Area 2 Sem Hrs
An interpretation of the principal geological features of the Great Lakes region through the application of basic geological principles. Includes some identification of rocks, minerals, and fossils. Field trip required. Students must pay own expenses. (30-0)

GLG 125 Geology of the National Parks 3 Sem Hrs
A study of the origin of geologic features of selected national parks. Includes an analysis of rocks, minerals, fossils, and physical landscapes as well as the geologic history of varied regions of the United States. Interpretation of topographic and geologic maps of selected areas. (45-0)

GLG 130 Environmental Geology 4 Sem Hrs
Introduces geology as it relates to human activities, and is designed for both non-science majors and students interested in an environmental career. Emphasizes geologic hazards, including earthquakes, volcanic eruptions, flooding, mass movements, and pollution of water and soil resources. Examines waste disposal along with related topics in medical geology and environmental law. Optional field trip(s) to waste disposal sites and/or remediation sites. (45-30)

GLG 230 Introductory Field Methods in Hydrogeology 2 Sem Hrs
Prerequisite: Successful completion (grade of "C" or better) in GLG 111, or GLG 130, or BIO 110. Introduces the field techniques used in environmental site assessment, ground water monitoring, and ground water testing. Includes soil water sampling, ground water sampling, water quality testing, and water level recording. Explores topics of geophysical surveying, water well installation, piezometer installation and techniques to determine the direction of ground water flow. (15-45)

GLG 262AW Geology of Mackinac Island 1 Sem Hr
Studies the bedrock geology and glacial features of Mackinac Island and surrounding areas, including Tahquamenon Falls. Weekend field trip required with students paying their own expenses. (15-0)

GLG 262BW Geology of Pictured Rocks 1 Sem Hr
Studies the bedrock geology and geologic setting of Pictured Rocks National Lakeshore, including surrounding rocks and water falls. Weekend field trip is required with student paying their own expenses. (15-0)

GLG 262W Geology of the Canadian Shield 1 Sem Hr
Studies the geologic and geographic features of the Lake Superior region of Canada. Includes topics such as rock types, origin of landscape features, physical environments, natural resources, and relationships of humans with the environment. Weekend field trip required with students paying their own expenses. (15-0)

GLG 266 Geology of the Grand Canyon 2 Sem Hrs
Prerequisite: Permission of Instructor. A study of the origin and distribution of the geologic features of the Grand Canyon of Arizona. Major topics include rock types, origin of landscape features, geologic history of the Grand Canyon, and human impact of the environment. Field work in the Grand Canyon is required. Students must pay own expenses. (30-0)

GLG 267 Geology of Northern Lower Michigan 1 Sem Hr
Studies the rocks and glaciated features of the lower peninsula of Michigan. Includes rock types, origin of landscape features, and studies of the exposed bedrock geology. Weekend field trip required with students paying own expenses. (15-0)

GLG 268 International Studies in Geology 1-4 Sem Hrs
Provides a geologic interpretation of selected world regions. Emphasis on physical environments, natural geologic processes, and geologic history of the study area. Includes class lectures, individual consultation, and international field study. Expenses for the field study are the responsibility of the student. (15-60,0)

GLG 290-299 Special Projects in Geology Sem Hr

History

HIS 111CW A Survey of Early Western Civilization 4 Sem Hrs
Requires enrollment in a learning community. Studies political, social, economic and cultural history of Europe from prehistoric times through the 1500's. Gives particular attention to civilizations and their relevant contributions to the modern world. Credit may be earned in only one of HIS 111, HIS 111CW, or HIS 111H. (60-0)

HIS 111HW A Survey of Early Western Civilization - Honors 4 Sem Hrs
Prerequisites: LEVEL 4 READING and LEVEL 2 WRITING and permission of the Honors Office. Studies political, social, economic and cultural history of Europe from prehistoric times through the 1500's. Gives particular attention to civilizations and their relevant contributions to the modern world. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in HIS 111 or HIS 111H but not in both. (60-0)

HIS 111W A Survey of Early Western Civilization 4 Sem Hrs
Prerequisites: LEVEL 4 READING or LEVEL 2 WRITING. Studies political, social, economic and cultural history of Europe from prehistoric times through the 1500's. Gives particular attention to civilizations and their relevant contributions to the modern world. Credit may be earned in HIS 111 or HIS 111H but not both. (60-0)

HIS 112HW A Survey of Later Western Civilization - Honors 4 Sem Hrs
Prerequisites: LEVEL 4 READING and LEVEL 2 WRITING and permission of the Honors Office. HIS 111 recommended. Studies political, social, economic, and cultural history of Europe from the 1600s to the present time. Gives particular attention to cultural and democratic movements and their influence on current history. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in only one of HIS 112, HIS 112H, HIS 111 or HIS 111H. (60-0)

HIS 112W A Survey of Later Western Civilization 4 Sem Hrs
Prerequisites: LEVEL 4 READING or LEVEL 2 WRITING. HIS 111 recommended. Studies political, social, economic, and cultural history of Europe from the 1600s to the present time. Gives particular attention to cultural and democratic movements and their influence on current history. Credit may be earned in HIS 112 or HIS 112H but not both. (60-0)

HIS 214W Early African-American History Pre-European Africa to 1877 3 Sem Hrs
Prerequisites: READING LEVEL 4 or WRITING LEVEL 2. Examines the transition of Africans to Afro-Americans, the Americanized institution of slavery, the development of the Afro-American community, and its impact on the culture and society of the new world. Also examines Afro-American resistance to slavery, free Afro-Americans, and the participation of the Afro-American community in the Civil War and Reconstruction. (45-0)

HIS 215W Recent African-American History: Since 1850 3 Sem Hrs
Prerequisites: READING LEVEL 4 or WRITING LEVEL 2. Focuses on the ideological, strategic and demographic changes and conflicts of Afro-Americans since emancipation, with special emphasis on legal and extra-legal terror and the many social movements including Bookerism, Garveyism, Pan- Africanism, "The King Years" (specifically 1955-1968), and the post-King era. Examines emerging Africa, new-racism, and the diversity within the current Afro-American community. (45-0)

HIS 217W Hispanics in the U.S. 3 Sem Hrs
Prerequisites: READING LEVEL 4 or WRITING LEVEL 2. Surveys the social, cultural, economic and political history of Hispanic Americans (Spanish-speaking), which includes groups such as Mexican-Americans, Cuban-Americans and Puerto Rican-Americans, with emphasis on Mexican-Americans. Analyzes the present status of different Hispanic groups and the problems that minority groups encounter in American society. (45-0)

HIS 221W Early American History 3 Sem Hrs
Prerequisites: LEVEL 4 READING or LEVEL 2 WRITING. Introduces American history from its immediate European background through the Civil War Era. Emphasizes the growth of institutions and ideas. Also examines the political, economic, and social experiences of the young Republic, and their influence on contemporary America. (45-0)

HIS 222CW Recent American History 3 Sem Hrs
Requires enrollment in a learning community. Surveys modern America from the Gilded Age to the present emphasizing the formation of American character traits. Examines topics such as the frontier, abundance, growth of government and regulation, the Depressions, and the Cold War for their influence upon the development of the American individual. Credit may be earned in HIS 222W or HIS 222CW, but not both. (45-0)

HIS 222W Recent American History 3 Sem Hrs
Prerequisites: LEVEL 4 READING or LEVEL 2 WRITING. Surveys modern America from the Gilded Age to the present emphasizing the formation of American character traits. Examines topics such as the frontier, abundance, growth of government and regulation, the Depressions, and the Cold War for their influence upon the development of the American individual. (45-0)

HIS 225W History of Women and Gender in the West 3 Sem Hrs
Prerequisites: READING LEVEL 4 or WRITING LEVEL 2. Surveys the role of gender in the west from the beginning of civilization to the present. Explores theories of masculinity and femininity, the history of gender roles and the relationship of these beliefs and practices to the economy, politics, and cultural expressions of the west. (45-0)

HIS 236W History of Michigan 2 Sem Hrs
Prerequisites: LEVEL 4 READING or LEVEL 2 WRITING. Explores the history of Michigan from the time of the first known human inhabitants, through the periods of French and British settlement and U.S. acquisition. Emphasizes the study of Michigan history through the periods of territorial status, statehood and industrial growth. Directs attention toward the Saginaw Valley and its relationship to a developing Michigan. Credit may be earned in one of the following HIS 113, HIS 114, HIS 236 , or HIS 237. (30-0)

HIS 237W History of Michigan/With Project 3 Sem Hrs
Prerequisites: LEVEL 4 READING or LEVEL 2 WRITING. Explores the history of Michigan from the time of the first known human inhabitants, through the periods of French and British settlement and U.S. acquisition. Emphasizes the study of Michigan history through the periods of territorial status, statehood and industrial growth. Directs attention toward the Saginaw Valley and its relationship to a developing Michigan. Includes a major paper or project. Credit may be earned in one of the following HIS 113, HIS 114, HIS 236 [or HIS 236W] or HIS 237 [or HIS 237W]. (45-0)

HIS 240HW Renaissances and Reformations in Early Modern Europe - Honors 3 Sem Hrs
Prerequisites: READING LEVEL 4 or WRITING LEVEL 2 and permission of the Honors office. Explores the massive upheaval of western civilization by the intellectual movements of the Renaissances and the religious movements known as the Reformations. Studies the roots of these movements and their impact on the culture and politics of Europe and western civilization. Credit may be earned in HIS 240 or HIS 240H but not both. (45-0)

HIS 240W Renaissances and Reformations in Early Modern Europe 3 Sem Hrs
Prerequisites: READING LEVEL 4 or WRITING LEVEL 2. Explores the massive upheaval of western civilization by the intellectual movements of the Renaissances and the religious movements known as the Reformations, the roots of these movements and their impact on the culture and politics of Europe and western civilization. Credit may be earned in HIS 240 or HIS 240H, but not both. (45-0)

HIS 268W International Studies in History 1-4 Sem Hrs
The student will do an in-depth historical study in one or more aspects of the history of the country other than the United States. Overseas study is an integral part of the course. Expenses for travel and overseas study must be borne by the student. (60-0)

HIS 290-299 Special Projects in History Sem Hr

Health Science

HSC 100 Introduction to Healthcare Careers 2 Sem Hrs
Prerequisite: READING LEVEL 2. Introduces aspects of healthcare career. Examines study strategies for success, understanding the many professional roles in healthcare. Examines concepts related to ethics, legal considerations, patient care, confidentiality, communication, safety standards and basic assessment findings promoting critical thinking. (30-0)

HSC 105 Medical Terminology 2 Sem Hrs
Develops a basic understanding of the spelling and meaning of commonly used prefixes, suffixes, and word roots, and their combining forms. Comprehension of these word parts will allow proper use of words for the development of professional language use in the allied health professions. (30-0)

HSC 140 Basic Medical Emergencies 2 Sem Hrs
Provides the background necessary to respond to basic emergency situations in the clinical setting. Includes respiratory, cardiac, neurological, and diabetic emergencies. Cardiopulmonary resuscitation certification requirements must be met for successful completion of course. (30-0)

HSC 205W Legal Aspects of the Health Care System 2 Sem Hrs
An overview of state legislation affecting various aspects of the health care system, including study of common legal problems, etc., such as dispensing of medication and privacy of medical records. Designed primarily for health care professionals. (30-0)

HSC 210 Medical Office Pharmacology 1 Sem Hr
Prerequisites: HSC 105 and one of the following: BIO 101, BIO 131, BIO 132, BIO 140, BIO 152, BIO 153, BIO 160, or BIO 240, both with a minimum grade of "C" (2.0). Presents the necessary information to comply with the federal laws regarding accurate and secure drug records and the interpretation of prescriptions and communication of medication orders to other professionals. Credit may be earned in MA 205 or HSC 210 but not in both. (15-0)

HSC 290-299 Special Projects in Health Science Sem Hr

Interdisciplinary Humanities

IHU 101 Humanities Through the Arts 3 Sem Hrs
A survey of the human condition as seen through film, dramas, music, literature, painting, sculpture, and architecture with an emphasis on the history, techniques, meaning, and evaluation of individual works of western art. (45-0)

IHU 110W Introduction to Genealogy 1 Sem Hr
Introduces and broadly examines genealogy from an interdisciplinary perspective. Examines family and ethnic history and pursues family history for personal and professional growth. Covers research methods, record keeping, and problem solving. Emphasizes the use of archival and printed sources, and the Internet. Credit may earned in IHU 110 or SSI 110 but not in both. (15-0)

IHU 120W Introduction to Global Peace Studies 3 Sem Hrs
Prerequisites: READING LEVEL 2 or WRITING LEVEL 2. Provides an interdisciplinary foundation for global peace studies. Focuses on identifying the various factors that interact to generate peace and/or conflict at the personal, local, national, and international levels. Includes analysis of how the interaction of economic and political influences, as well as the availability of environmental resources and cultural norms and values can result in peace or conflict. Explores and applies to case studies the distinction between positive and negative peace and methods of conflict analysis and resolution. Provides participation in cross-cultural training and mediation, as well as practices designed to enhance emotional self-regulation and perspective-taking, skills necessary for effecting positive change in the world. (45-0)

IHU 161 Projects in Cross-Cultural Learning 1 Sem Hr
Assign student volunteers to either community agencies providing cross-cultural experiences or to an international work experience. Supportive seminars will provide both structure and background knowledge of the particular country involved. (A minimum of 30 hours volunteer placement is required). Credit may be earned in IHU 161 or SOC 161, but not both. (15-30)

IHU 162 Projects in Cross-Cultural Learning 2 Sem Hrs
Assign student volunteers to either community agencies providing cross-cultural experiences or to an international work experience. Supportive seminars will provide both structure and background knowledge of the particular country involved. (A minimum of 60 hours volunteer placement is required.) Credit may be earned in IHU 162 or SOC 162, but not both. (15-60)

IHU 201HW Honors Colloquy 3 Sem Hrs
Prerequisite: LEVEL 4 READING and LEVEL 2 WRITING and permission of Honors office. Required of all Honors students. Explores the elements of critical and creative thinking. Emphasizes relationships among thinking, writing, and productive interaction with others, as well as the interdisciplinary nature of truth and knowledge. Includes project and/or research writing at instructor's discretion. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in LIT 201H or IHU 201H but not both. (45-0)

IHU 202 Women's Studies 3 Sem Hrs
Introduces the academic field of women's studies. Explores the diversity of women's experiences and achievements both in the present and in the past from a variety of interdisciplinary perspectives. Addresses social structures and the intersections of gender, class, race, ethnicity, religion, ages, abilities, and sexual identities. (45-0)

IHU 210 Death and Dying 3 Sem Hrs
Prerequisite: ENG 111, ENG 111A or permission of instructor. Studies attitudes, practices, beliefs, theories, institutions of death and dying in contemporary, historical western and also some non-western societies. Addresses issues of pain management, doctor-assisted suicide, quality versus quantity of life, organ donation, bereavement, the funeral industry, living wills and durable powers of attorney. (45-0)

IHU 226W Introduction to Film 3 Sem Hrs
Prerequisite: Any approved College Composition I course with a minimum grade of C or permission of instructor. Follows the creation of a film from the original idea to final production. Examines film as a mode of popular entertainment and as an art form. Focuses on identifying the media's components and developing the viewers' standards of appreciation. Credit may be earned in IHU 226 or LIT 226, but not in both. (45-0)

IHU 232W Exploring Human Nature 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition I course or WRITING LEVEL 4. Explores the question "What does it mean to be human?" from interdisciplinary perspectives. Identifies and discusses the relative importance of traits and characteristics that "make us human." Examines and evaluates major traditional and contemporary views of human nature and introduces alternative ways of understanding the self in relation to nature, society, religion, and the state. Credit may be earned in only one of IHU 232, SSI 232, or PSY 232. (45-0)

IHU 234W World Religions 4 Sem Hrs
Prerequisites: READING LEVEL 2 or WRITING LEVEL 2. Introduces religion and the primary "living" religions of the world. Examines the principles and functions of religion, the origins and cultures of the world's major religions, and their beliefs and primary ritual practices. Discusses and critically examines how religious belief systems and practices influence the thoughts and behaviors of adherents in everyday life. Credit may be earned in SSI 234 or IHU 234 but not in both. (60-0)

IHU 240W Leadership for Positive Change 3 Sem Hrs
Prerequisites: READING LEVEL 2 or WRITING LEVEL 2. Prepares students to lead positive change in a variety of contexts (personal, family, community/social and organizational). Includes: leadership development, problem solving, service learning, team work, global citizenship, sustainability, and social action. Provides opportunities for individual practice and reflection and requires "change" project in service to family, community, or place of employment. (45-0)

IHU 245W Biblical Literature: Old Testament 3 Sem Hrs
Studies critically the literature of the Old Testament. Examines the Old Testament Canon in its historical development. Also examines both the literary styles and changing theological and ethical ideas. Credit may be earned in IHU 245 or LIT 245 but not both. (45-0)

IHU 261 Contemporary Art in Chicago 2 Sem Hrs
Surveys contemporary art forms, processes, and ideas of the international art market in a 3-day visit to Chicago which will include the International Art Fair, the Chicago Art Institute and the Contemporary Museum of Art. Students pay tuition plus all of their expenses. (30-0)

IHU 267 Producing A Student Publication 3 Sem Hrs
Prerequisite: Any Approved Composition II or OAT 152 with a grade of "C" or better. Provides a guided opportunity to learn about publishing by compiling, selecting, editing, and designing an annual publication of student writing, photography, and artwork. Focuses on hands-on experience in critical reading, writing, and thinking; editing; layout; production details; marketing; design; and distribution. Credit may also be earned in ART 267 but not in the same semester. (45-45)

IHU 268 International Studies in Interdisciplinary Humanities 1-4 Sem Hrs
The student will do an in-depth study in one or more aspects of the culture, language, and history of Hawaii. Overseas study is an integral part of the course. Expenses for travel and overseas study must be borne by the student. (15-60 lecture)

IHU 269W Interdisciplinary Study with Domestic Travel 1-4 Sem Hrs
Prerequisites: READING LEVEL 2 AND WRITING LEVEL 2. Provides an interdisciplinary study-travel experience focused on examining the factors, issues, and forces that impact the course topic within the United States. Historical and contemporary perspectives will also be used to examine various cultural contexts and lifestyles. Involves readings, writing, discussion, and travel. Requires domestic travel with expenses to be paid by the student. Credit may be earned in IHU 269 or SSI 269, but not both. (15/60-0)

IHU 280W Exploring Diversity 2 Sem Hrs
Prerequisites: LEVEL 2 Reading and LEVEL 2 Writing. Provides a foundation in knowledge and application of issues and principles surrounding diversity. Provides an opportunity to explore, reflect and practice an interdisciplinary approach to the study of diversity. Credit may be earned in only one of the following: SSI 288, SSI 289, ED 388, ED 389, IHU 280 or IHU 281. (30-0)

IHU 281HW Exploring Diversity with project - Honors 3 Sem Hrs
Prerequisites: LEVEL 4 READING and LEVEL 2 WRITING and permission of the Honors Office. Provides a foundation in knowledge and application of issues and principles surrounding diversity. Provides an opportunity to explore, reflect and practice an interdisciplinary approach to the study of diversity. Includes completion of project. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in only one of the following: SSI 288, SSI 289, ED 388, ED 389, IHU 280 or IHU 281. (45-0)

IHU 281W Exploring Diversity/With Project 3 Sem Hrs
Prerequisites: LEVEL 2 Reading and LEVEL 2 Writing. Provides a foundation in knowledge and application of issues and principles surrounding diversity. Provides an opportunity to explore, reflect and practice an interdisciplinary approach to the study of diversity. Includes completion of project. Credit may be earned in only one of the following: SSI 288, SSI 289, ED 388, ED 389, IHU 280 or IHU 281. (45-0)

IHU 282HW Seminar in Social Issues - Honors 3 Sem Hrs
Prerequisite: READING LEVEL 4 or 5B and WRITING LEVEL 4 or 4B and permission of Honors office. An integrated study involving exploration and development of critical thinking, analysis and problem- solving skills with an interdisciplinary approach focusing on a selected social issue. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in IHU 282H or SOC 282H, but not both. (45-0)

IHU 289 New Media 3 Sem Hrs
Prerequisites: ART 111, ART 115, ART 116. Prerequisites may be waived following portfolio review by instructor. Provides a lecture/discussion style format in combination with studio work time to explore new art forms from mid 20th century to current times. Credit may be earned in IHU 289 or ART 289 but not in both. (30-60)

IHU 290-299 Special Projects in Interdisciplinary Humanities

IHU 294W Special Projects: The Great Lakes Indians and European Experience 3 Sem Hrs
Prerequisites: READING LEVEL 2 or WRITING LEVEL 2. Examines American Indian history and culture in the Great Lakes from pre-contact to 1934. Considers and explores the approaches of studying Native Americans from a historical and sociological perspective; including the political, cultural, and social consequences of contact with Europeans. Provides a thorough historical and cultural background of the Great Lakes Indians, specifically the "People of the Three Fires," known as the "Anishnaabeg" and "People of the Calumet" of the Great Lakes. Credit may be earned in IHU 294 or SSI 294 but not both. (45-0)

IHU 295W Special Projects in Interdisciplinary Humanities - The Sixties 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition I course and WRITING LEVEL 2 or permission of instructor. Examines, through an interdisciplinary approach, the literature, film, music and other types of media of 1960s America and explores their interrelationships with history, psychology, sociology and philosophy to discover the causes and effects of the upheaval of the era. Discusses the social movements of the era and the changes in the way democracy has been perceived. Credit may be earned in IHU 295W or SSI 295W but not both. (45-0)

IHU 296 Introduction to the Humanities 2 Sem Hrs
Prerequisite: READING LEVEL 3 and WRITING LEVEL 3. Introduces students to a variety of humanities disciplines and analyzes the way the humanities impact public and private life across America and in our local communities. (30-0)

Industrial Technology Education

ITE 290-299 Special Projects in Industrial Technology Education

ITE 330 Careers and Technology for Children 3 Sem Hrs
Prerequisite: ED 200B or Permission of Instructor. Covers how to teach students career awareness, exploration, and preparation. Creates teaching materials using industrial tools, processes and supplies with a focus on 7-12 grade students. (45-0)

ITE 340 Teaching Methods and Strategies in Industrial/Technical Education 3 Sem Hrs
Prerequisite: ED 200B or Permission of Instructor. Surveys local, state, and national standards for teaching industrial technology. Considers current and historic philosophies, methods and trends. (45-0)

ITE 350 Curriculum Development and Facility Planning in Industrial/Technical Education 3 Sem Hrs
Prerequisite: ED 200B or Permission of Instructor. Develop course, program, and curriculum materials. Specify materials, tools, machines, and facilities for industrial technology education. (45-0)

Leisure Activity

LEA 149 Golf I 1 Sem Hr
Introduces the fundamentals of the full swing, the short game, and putting, along with the rules and courtesies of the game. Utilizes a public golf course for play, requiring an additional fee. Credit may be earned in LW 149 or LEA 149, but not in both. (0-30)

LEA 168 Ballet II 1 Sem Hr
Continues and further develops the basic movements introduced in Ballet I with emphasis on combinations of movements (enchainments) to develop concentration, balance and speed. Credit may be earned in LW 168 or LEA 168 but not in both. (0-30)

LEA 188 Skiing I 1 Sem Hr
Introduces the fundamental skills of skiing including the gliding wedge, wedge turn, traversing and stem turn. Students must furnish or rent equipment and pay skiing charges. Credit may be earned in LW 188 or LEA 188 but not in both. (0-30)

LEA 189 Skiing II 1 Sem Hr
Emphasizes the transition from steered turn to sliding turn. Includes side slipping, uphill christie, and stem christie. Credit may be earned in LW 189 or LEA 189 but not in both. (0-30)

LEA 190 Skiing III 1 Sem Hr
Prerequisite: LEA 189 or equivalent skill level. Student will learn the finer points of parallel skiing. Parallel christie, parallel with check, and short swing will be taught. Student must furnish or rent equipment and pay skiing charges. Credit may be earned in LW 190 or in LEA 190 but not in both. (0-30)

LEA 194 Snowboarding 1 Sem Hr
Introduces the fundamentals of snowboarding including the basics of skating, climbing, gliding, and turning. Credit may be earned in LW 194 or LEA 194 but not in both. (0-30)

LEA 290-299 Special Projects in Leisure Activity

Library Skills

LIB 195W Library Research Skills 2 Sem Hrs
Prerequisites: Reading LEVEL 2. Develops information literacy for success with college-level academic research. Credit may be earned in LIB 195W or ENG 195W but not in both. (30-0)

LIB 290-299 Special Projects in Library Skills Sem Hr

Literature

LIT 201HW Honors Colloquy 3 Sem Hrs
Prerequisite: READING LEVEL 4 and WRITING LEVEL 2 and permission of the Honors Office. Required of all Honors students. Explores the elements of critical and creative thinking. Emphasizes relationships among thinking, writing, and productive interaction with others, as well as the interdisciplinary nature of truth and knowledge. Includes project and/or research writing at instructor's discretion. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in LIT 201H or IHU 201H but not both. (45-0)

LIT 219W Literary Analysis 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition II course. Surveys and practices methods of literary interpretation and appreciation, from the close reading strategies of New Criticism to the contemporary considerations of reader-response theory. Interpretive papers on particular works of fiction, poetry and drama are required. (45-0)

LIT 220W Readings In Poetry 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition II course. Studies the background, developments, and the current state of modern poetry. Emphasizes poetry by American and British authors. (45-0)

LIT 221W Readings in the Short Story 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition II course. The student will read selected short stories of British, American, and other authors in addition to increasing one's understanding of this relatively modern form, the student will explore ways in which the short story is personally meaningful in depicting our perception of ourselves and the world in which we live. (45-0)

LIT 222W Readings in the Novel 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition II course. From a reading of selected novels the student will develop understanding of the novel form. The student will also learn how to derive personal meaning and satisfaction from novels chosen from different times, places, and cultures. (45-0)

LIT 223W Readings in Drama 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition II course or instructor permission. Studies historical and popular American, British and other plays. Examines the effects of drama on both American, British and other cultures. (45-0)

LIT 224HW Literary Festival - Honors 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition II course or permission of instructor and permission of the Honors Office. Examines a body of literature organized by the selection of material either from the works of one author, genre, or topic, or a combination thereof. (e.g. science fiction, war novel, thrillers, horror, etc.) Course content to be announced each semester prior to registration. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in either LIT 224 or LIT 224H but not in both.(45-0)

LIT 224W Literary Festival 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition II course or permission of instructor. Examines a body of literature organized by the selection of material either from the works of one author, genre, or topic, or a combination thereof. (e.g. science fiction, war novel, thrillers, horror, etc.) Course content to be announced each semester prior to registration. Credit may be earned in LIT 224 or LIT 224H but not in both. (45-0)

LIT 226W Introduction to Film 3 Sem Hrs
Prerequisite: Any approved College Composition I course with a minimum grade of C or permission of instructor. Follows the creation of a film from the original idea to final production. Examines film as a mode of popular entertainment and as an art form. Focuses on identifying the media's components and developing the viewers' standards of appreciation. Credit may be earned in LIT 226 or IHU 226 but not in both. (45-0)

LIT 227CW The American Motion Picture 3 Sem Hrs
Prerequisite: READING LEVEL 4 and WRITING LEVEL 2. Concurrent enrollment in ENG 111 or ENG 112 in a coordinated learning community. Studies popular films, with major emphasis on American culture as reflected in the motion picture. Examines the effect of the images portrayed in motion pictures on the perception of American society and history; topics vary from semester to semester. Credit may be earned in either LIT 227 or LIT 227C, but not both. (45-0)

LIT 227W The American Motion Picture 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition II course. Studies popular films, with major emphasis on American culture as reflected in the motion picture. Examines the effect of the images portrayed in motion pictures on the perception of American society and history; topics vary from semester to semester. (45-0)

LIT 228HW Masterpieces of World Literature: Beginning through 1600s - Honors 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition II course or permission of instructor and permission of the Honors Office. Surveys world literature through 1600 that includes, but is not necessarily limited to, the masterpieces of the Western tradition. Concentrates on recurring themes, such as a person's relationship to God and nature, individual and social morality, liberty and responsibility, social and economic justice, and the search for a meaningful existence. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in either LIT 228 or LIT 228H, but not in both. (45-0)

LIT 228W Masterpieces of World Literature: Beginning through 1600s 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition II course or permission of instructor. Surveys world literature through 1600 that includes, but is not necessarily limited to, the masterpieces of the Western tradition. Concentrates on recurring themes, such as a person's relationship to God and nature, individual and social morality, liberty and responsibility, social and economic justice, and the search for a meaningful existence. Credit may be earned in LIT 228 or LIT 228H but not in both. (45-0)

LIT 229HW Masterpieces of World Literature: 1600s to the Present - Honors 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition II course or permission of instructor and permission of the Honors Office. Surveys world literature from the 1600s to the present including but not necessarily limited to the masterpieces of the Western tradition. Concentrates on recurring themes, such as a person's relationship to God and nature, individual and social morality, liberty and responsibility, social and economic justice, and the search for a meaningful existence. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in either LIT 229W or LIT 229HW, but not in both. (45-0)

LIT 229W Masterpieces of World Literature: 1600s to the Present 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition II course or permission of instructor. Surveys world literature from the 1600s to the present including but not necessarily limited to the masterpieces of the Western tradition. Concentrates on recurring themes, such as a person's relationship to God and nature, individual and social morality, liberty and responsibility, social and economic justice, and the search for a meaningful existence. Credit may be earned in LIT 229 or LIT 229H (45-0)

LIT 230W Readings in Modern Non-Fiction 3 Sem Hrs
Pre-requisite: A "C" grade or better in a college level composition II course or permission of instructor. Studies selected modern (post-1945) and contemporary non-fiction works in order to understand the variety of forms and expression which are possible. Concentrates on themes and topics which are a recurring part of the human condition. (45-0)

LIT 241W Introduction to Mythology 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition II course. Provides an introduction to some of the concepts of mythology and the presence of these concepts in art and literature in particular. Considers the functions of mythology, the universality of the journey pattern in all myths, the nature of mythic imagery, the distinction between mythos and logos as patterns in thinking, the approaches available in examining particular myths and the application of all these dimensions in reading a given story. (45-0)

LIT 242W Introduction to British Literature 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition II course. Provides a sampling of the work of some of the major authors in British Literature. Requires works to be read and examined for an understanding of the material, an appreciation of the literary forms and for the awareness of unifying themes that hold together a culture's conceptual framework. Enhances reading skills and aesthetic appreciation through exposure, discussion, writing and critical thinking. (45-0)

LIT 245W Biblical Literature: Old Testament 3 Sem Hrs
Studies critically the literature of the Old Testament. Examines the Old Testament Canon in its historical development. Also examines both the literary styles and changing theological and ethical ideas. Credit may be earned in LIT 245 or IHU 245 but not both. (45-0)

LIT 246W Biblical Literature: New Testament 3 Sem Hrs
A critical study of the literature of the New Testament with some attention given to the Inter-Testamental literature. The literature will be studied in terms of its historical development. Some attention will be given to the canonization of the New Testament, to the different literary styles and to the theological and ethical ideas. (45-0)

LIT 251W Children's Literature 4 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition II course. Surveys literature for children in the elementary grades. Explores quality trade books for children; presents respected writers and illustrators in various genres. Dispels commonly misconceived and generic thinking about children's literature, replacing with more perceptive criteria and reflective judgment of book selection. Results in greater knowledge, understanding, and appreciation of children's literature. (60-0)

LIT 252W Young Adult Literature 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition II course. Explores literature written for and about young adults, defined as those students in middle or junior high and high school. Surveys quality trade books, with emphasis on top writers of the best, most engaging literature. Increases awareness of how literature speaks to young adults and engages them in language and learning experiences. Appropriate for general students of literature and those planning to enter careers in secondary education, sociology, psychology, and juvenile justice. (45-0)

LIT 253W Literature for Preschool Children 3 Sem Hrs
Surveys quality fiction and nonfiction trade books for preschool children, with emphasis on top writers and illustrators of the best, most engaging literature. Increases awareness of how literature speaks to young children and engages them in language and learning experiences. (45-0)

LIT 260W Literature and History of the Holocaust 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition II course. Introduces Holocaust studies. Covers the years 1933 to 1945, focusing on the role of perpetrators, victims, bystanders, and those involved in resistance and rescue. Uses a variety of literature that assesses how did the Holocaust happen? Who is responsible? What can we learn from this catastrophe? (45-0)

LIT 268 International Studies in Literature 1-4 Sem Hrs
The student will do an in-depth study in one or more aspects of the literature or film of a country other than the United States. Includes class lectures and individual consultation. Overseas study is an integral part of the course. Expenses for travel and overseas study must be borne by the student. (60-0)

LIT 269W Native North American Literature 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition II course. Surveys the literature of Native North Americans: poetry, short stories, novels and non-fiction, including biographies of important Indian leaders. Develops an understanding of the cultures which produced the literature. (45-0)

LIT 271HW American Literature to 1865 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition II course. Studies major movements and themes in American literature as they appear in the works of important authors from the Puritan period to and including the Age of Romanticism. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in either LIT 271W or LIT 271HW, but not in both. (45-0)

LIT 271W American Literature to 1865 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition II course. Studies major movements and themes in American literature as they appear in the works of important authors from the Puritan period to and including the Age of Romanticism. Credit may be earned in either LIT 271W or LIT 271HW, but not in both. (45-0)

LIT 272AW American Literature since 1865 with Learning Community 3 Sem Hrs
Concurrent enrollment in ENG 111 or ENG 112 in a coordinated learning community. Studies major movements and themes in American Literature after the age of Romanticism through the Age of Realism and New Directions. Credit may be earned in LIT 272 or LIT 272A, but not in both. (45-0)

LIT 272W American Literature Since 1865 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition II course. Studies major movements and themes in American Literature after the age of Romanticism through the Age of Realism and New Directions. (45-0)

LIT 274W Mexican-American Literature 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition II course or permission of the instructor. Studies novels, short stories, poetry and non-fiction by Mexican-Americans. Explores some cultural elements such as ethnicity, self-hood, self-definition, machismo and gender issues, religious influences, the tradition of curanderos and la llorona. Constructs an understanding of how culture (can) affect creative expression. (45-0)

LIT 276W Contemporary American Fiction (1945 to Present) 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition II course or permission of instructor. Studies trends, techniques, and themes in recent American novels and short stories. Requires reading, analyzing, and critiquing works of modern writers. (45-0)

LIT 277W Early African-American Literature 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition II course. Studies American history and trends that affected African-American writers from the oral tradition to the written works. (45-0)

LIT 278W Modern African-American Literature 3 Sem Hrs
Prerequisite: WRITING LEVEL 3. Studies current trends in both cultural and historical contexts. Examines the ways in which Modern African-American Literature is influenced by American history and how it affects the lives of African-Americans. (45-0)

LIT 283W Literature of Mysticism 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition II course. Explores literature about mysticism, both secular and religious. Designed to help students begin an inner search for authenticity, personal integration and self-awareness. Provides a variety of possibilities for developing innate potentialities and for achieving altered states of consciousness through awareness exercises, meditation, chanting, fantasy journeys and journal writing. (45-0)

LIT 285W Women in Literature 3 Sem Hrs
Discusses women as literary characters and as authors in time periods and cultures selected by instructor. Concentrates on women's perceptions of social structures, the blending of private and public spheres, and women's relationships to the world of publishing and literary criticism. Contrasts a woman-centered look at literature with more traditional, canonical approach to literature. (45-0)

LIT 290-299 Special Projects in Literature Sem Hr

Legal Support Professional

LSP 110W Legal Ethics and Responsibilities of the Legal Assistant 3 Sem Hrs
Prerequisite: READING LEVEL 4 or 5b and WRITING LEVEL 4 or 4b. Provides an overview of the various roles, responsibilities, and problems found in the Legal Support Professional program, and the legal ethics, legal terminology, and basic skills needed. Introduces legal forms and procedures, as well as computer skills and computer programs. Places substantial emphasis on the importance of legal ethics for the Legal Support Professional through study of the State Bar of Michigan Rules of Professional Conduct, the Michigan Code of Judicial Conduct, and the National Association of Legal Assistants Code of Ethics and Professional Responsibility. Addresses preparation for the CLA examination, the importance of communication skills, keeping track of deadlines, calendars, and mailing procedures. Credit may be earned in LAS 110 or LSP 110 but not in both. (45-0)

LSP 115 Principles of Substantive Law 3 Sem Hrs
Prerequisite: LSP 110 or LAS 110. Introduces the dynamics of the law and legal process, including the origin and development of the law, types of law and the judicial system. Examines substantive legal subjects including contracts, torts, property, criminal and business related subjects. Emphasizes recognition of legal issues and the understanding of legal terminology. Credit may be earned in LAS 115 or LSP 115 but not in both. (45-0)

LSP 150 Real Estate Law 2 Sem Hrs
Prerequisite: Legal Support Professional program or permission of instructor. Introduces the principles of real estate law. Describes the process and procedures involved in the buying and selling of real estate, mortgage loans and leasing. Examines the legal support professional's role in assisting the lawyer with preparing or evaluating surveys and legal descriptions, deeds of conveyance, title search reports, agreements, closing and leases. Credit may be earned in LAS 150 or LSP 150 but not in both. (30-0)

LSP 210 Estate and Trust Administration 2 Sem Hrs
Prerequisite: Students in Legal Support Professional program or permission of instructor. Studies the administration of a decedent's estate from initial conference through the closing of an estate and the distribution of assets. Emphasizes preparation of proper probate documentation, preparation of proper tax returns including federal estate tax returns and fiduciary returns, and explanation of Michigan inheritance tax. Credit may be earned in LAS 210 or LSP 210 but not in both. (30-0)

LSP 220 Environmental Law 2 Sem Hrs
Prerequisite: Students in Legal Support Professional program or permission of instructor. Surveys issues pertaining to environmental law. Emphasizes the process of integrating environmental policies into the social system, implementing environmental policies through the legal system, and accommodating environmental values with economic realities, traditional property rights, and national energy policy. Credit may be earned in LAS 220 or LSP 220 but not in both. (30-0)

LSP 230 Civil Litigation 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition I course, MGT 251, and LAS 115 or LSP115 or LAS 120 or LSP 120. Studies the analysis, evaluation, and preparation of the various stages of a civil matter for litigation and trial using Michigan Rules of Civil Procedure and Rules of Evidence. Includes an efficient and systematic approach to fact investigation, drafting pleadings, discovery, and file control. Studies the pretrial stages of a lawsuit with emphasis upon trial preparation including motions in limine, witness preparation, and jury voir dire, concluding with trial and post-trial motions. Credit may be earned in LAS 125 or LSP 230 but not in both. (45-0)

LSP 235 Criminal Law and Procedure 3 Sem Hrs
Prerequisite: Legal Support Professional program or permission of instructor. Studies formal legal processes involved in criminal practice from arrest through post-trial motions, sentencing, and appeal. Describes constitutional rights of the accused and the definitions of various criminal offenses. Credit may be earned in LAS 235 or LSP 235 but not in both. (45-0)

LSP 240 Domestic Relations 2 Sem Hrs
Prerequisite: Legal Support Professional program or permission of instructor. Studies the theoretical and practical aspects of family law with an emphasis on Michigan family law including dissolution of marriage, child custody, support, property settlements, judgments and the role of the Friend of the Court. Presents basic techniques in obtaining facts from clients in order to prepare and draft complaints, answers, financial affidavits and verified statements. Credit may be earned in LAS 240 or LSP 240 but not in both. (30-0)

LSP 245 Personal Injury 3 Sem Hrs
Prerequisite: Legal Support Professional program or permission of instructor. Studies the principles and legal theories relating to intentional and negligent torts to the person. Introduces medical terms based on a "building block" system of word formation. Includes workman's compensation, malpractice/negligence of professionals, auto negligence, products liability, dram shop liability, assault and battery, and premises liability. Credit may be earned in LAS 245 or LSP 245 but not in both. (45-0)

LSP 250 Corporate Law 2 Sem Hrs
Prerequisite: Legal Support Professional program or permission of instructor. Describes the nature of corporations, partnerships, and proprietorships with an emphasis on the corporate structure including formation and dissolution, amending Articles of Incorporation and by-laws, shareholders' and directors' meetings, corporate equity and debt securities, as well as employment and shareholders agreements. Credit may be earned in LAS 250 or LSP 250 but not in both. (30-0)

LSP 253 Bankruptcy Law 3 Sem Hrs
Prerequisite: LSP 110. Illustrates the legal aspects of the bankruptcy law and demonstrates the practical approach to working in this area. Reviews Federal Bankruptcy Law including different types of bankruptcy chapters, exemptions, dischargeable and nondischargeable debts, preferences, the role of the Bankruptcy Trustee, and preparation of petitions and schedules in bankruptcy. Emphasizes the effective use of the Legal Support Professional. Credit may be earned in LAS 253 or LSP 253 but not in both. (45-0)

LSP 260 Legal Support Internship I 1 Sem Hr
Prerequisite: Must have completed all Legal Support Professional required courses or permission of LSP Coordinator. Requires forty (40) hours of work experience in a law or law-related office. Credit may be earned in LAS 260 or LSP 260 but not in both. (0-15)

LSP 261 Legal Support Internship II 2 Sem Hrs
Prerequisite: Must have completed all Legal Support Professional required courses or permission of LSP Coordinator. Requires eighty (80) hours of work experience in a law or law-related office. (0-30)

LSP 262 Legal Support Internship III 3 Sem Hrs
Prerequisite: Must have completed all Legal Support Professional required courses or permission of LSP Coordinator. Requires one hundred twenty (120) hours of work experience in a law or law-related office. (45-0)

LSP 280W Legal Research and Writing 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition I course and LSP 115. Develops legal research techniques for both state and federal case law, statutes and administrative regulations. Emphasizes basic legal reasoning and writing skills for logical, organized problem solving. Familiarizes students with the most frequently used reference materials as well as online, commercially available legal databases including development of search queries. Describes techniques for presentation of technical material in formal and informal written reports, letters, or other current forms of business communication. Credit may be earned in LAS 120 or LSP 280. (45-0)

LSP 290-299 Special Projects in Legal Support Professional

Lifelong Wellness

LW 206A Occupational Wellness 1 1 Sem Hr
Prerequisite: Admission to restricted enrollment programs. Introduces wellness concepts, behavioral patterns, and activities that can be incorporated into the lifestyles of those working in a wide variety of occupational settings. (15-0)

LW 220HW Lifelong Wellness - Honors 1 Sem Hr
Prerequisite: LEVEL 4 READING, LEVEL 2 WRITING, and permission of the Honors Office. Promotes student understanding and experience of the direct correlation between positive lifestyle habits and well being through a series of classroom lectures that cover a variety of wellness topics and disease prevention. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in only one of the following: LW 220, LW 220H, or LW 206A. (15-0)

LW 220W Lifelong Wellness 1 Sem Hr
Prerequisite: READING LEVEL 2 Promotes student understanding and experience of the direct correlation between positive lifestyle habits and well being through a series of classroom lectures that cover a variety of wellness topics and disease prevention. Credit may be earned in only one of the following: LW 220, LW 220H, or LW 206A. (15-0)

LW 221W Fitness and Wellness 2 Sem Hrs
Prerequisite: READING LEVEL 2. Promotes student understanding and experience of the direct correlation between positive lifestyle habits and wellbeing through a series of classroom lectures that cover a wide variety of wellness topics and disease prevention with application of these concepts through participation in aerobic conditioning, resistance training, diet analysis, and health assessments. Successful completion of LW 221W meets the Wellness graduation requirement. (15-30)

LW 222 The Science of Nutrition and Exercise 3 Sem Hrs
Prerequisite: READING LEVEL 2. Presents nutrition science as a key element for optimal living and health. Plans and reviews diets, principles, food nutrients, metabolism, and diet analysis. Evaluates health effects of nutrition. Introduces fitness and wellness principles and integrates with nutrition through various conditioning exercises. (45-15)

LW 223W Wellness in Technical Trades 2 Sem Hrs
Prerequisite: READING LEVEL 2. Correlates positive lifestyle habits and wellbeing. Covers a wide variety of wellness topics and disease prevention. Applies concepts through participation in aerobic conditioning, resistance training, diet analysis, CPR, AED, & First Aid Training and health assessments. Successful completion of LW 223W meets the Wellness graduation requirement and is highly recommended for all Technical Trades programs. (20-25)

LW 290-299 Special Projects in Lifelong Wellness

Lifelong Wellness Activty

LWA 101 Fitness for Life 1 Sem Hr
Introduces basic concepts underlying fitness and wellness as they relate to optimal healthful living using a wide variety of aerobic conditioning and resistance training techniques. Credit may be earned in LW 101 or LWA 101 but not in both. (0-30)

LWA 105 Women's Fitness 1 Sem Hr
Introduces basic concepts underlying fitness and wellness as they relate to optimal healthful living using a wide variety of aerobic conditioning and resistance training techniques. (15-15)

LWA 106 Athletic Conditioning 1 Sem Hr
Designed to improve current level of fitness. Uses weight, circuit, plyometric, and endurance exercises to improve power, balance, and agility. Incorporates the five health-related components of fitness: cardiorespiratory endurance, muscle strength and endurance, flexibility, and body composition. Credit may be earned in LW 106 or LWA 106 but not in both. (15-15)

LWA 108 Weight Training 1 Sem Hr
Introduces a systematic program of body conditioning and development through the use of weight exercises to improve individual wellness. Credit may earned in only one of the following: LWA 108, LW 107, LW 108, or LW 109. (0-30)

LWA 109 Weight Training for Women 1 Sem Hr
Introduces resistance training concepts. Presents, develops, and practices methods for muscular strength and endurance. Pre- and post-fitness assessment testing will be done and individual printouts will be made available. (0-30)

LWA 110 Jogging 1 Sem Hr
Introduces jogging as a means to obtain or improve current levels of health or conditioning. Emphasizes jogging to impact cardiorespiratory health. Uses aerobic endurance activities involving training techniques, skilled pacing, weights, calisthenics, proper stretching, and nutritional information to provide a complete exercise program. Credit may be earned in LW 110 or LWA 110 but not in both. (15-15)

LWA 111 Circuit Training 1 Sem Hr
Maintains and improves physical fitness levels. Uses weights, calisthenics, and endurance exercises in different combinations to provide complete workouts in a limited amount of time. Credit may be earned in LW 111 or LWA 111 but not in both. (0-30)

LWA 113 Tae Kwon Do I 1 Sem Hr
Provides an introduction to non-contact martial arts stressing technique and qualities of respect, self-discipline, and skills of self-defense. Credit may be earned in LW 113 or LWA 113 but not in both. (0-30)

LWA 114 Tae Kwon Do II 1 Sem Hr
Prerequisite: LWA 113. Provides an opportunity to utilize advanced techniques in a non-contact martial art class at the intermediate level. This course is mainly designed for yellow stripe through sixth gup color belts. Credit may be earned in LW 114 or LWA 114 but not in both. (0-30)

LWA 115 Aikido 1 Sem Hr
Provides an introduction to a non-aggressive martial art stressing use of spiritual energy, self-cultivation, mutual respect, and skills of self-defense. Credit may be earned in LW 115 or LWA 115 but not in both. (0-30)

LWA 116 Tai Chi 1 Sem Hr
Enhances physical and emotional well-being through the ancient Chinese martial art of Tai Chi. Improves understanding and knowledge of the philosophy, theory, and application of the Wu style of Tai chi, and how this relates to self-improvement in daily life. Improves muscular endurance, muscular strength, flexibility, balance, and cardiorespiratory health based on muscular contraction and release in continuous slow movements of the Tai Chi form. Credit may be earned in LW 116 or LWA 116 but not in both. (15-15)

LWA 118 Sports Judo 1 Sem Hr
Introduces the rules, skills, and courtesies in sports judo, as well as the special conditioning required. Credit may be earned in one of the following ONLY: LWA 118, LW 117, LW 118, or LW 119. (0-30)

LWA 119 Jujitsu 1 Sem Hr
Introduces the fundamental movements and submissions of Jujitsu. Provides opportunity in sport specific strength and conditioning. Pre- and post-fitness assessment testing will be administered. (15-15)

LWA 122 Fencing I 1 Sem Hr
Introduces foil fencing, its basic fundamentals, techniques, rules, and safety measures. Credit may be earned in one of the following ONLY: LWA 122, LW 122, LW 201, or LEA 201. (0-30)

LWA 124 Basketball 1 Sem Hr
Introduces basic skills of passing, dribbling, shooting, positional play, rules, and strategy of the game. Includes special conditioning to improve individual wellness. Credit may be earned in one of the following ONLY: LWA 124, LW 123, LW 124, or LW 125. (0-30)

LWA 127 Volleyball I 1 Sem Hr
Introduces basic skills of handling the ball, passing, setting, spiking, net-rebound play, and blocking. Includes rules and strategy. Credit may be earned in LW 127 or LWA 127 but not in both. (0-30)

LWA 131 Racquetball I 1 Sem Hr
Introduces basic skills and rules necessary to participate in racquetball which is a competitive game played in a four-walled court by two, three, or four players using stringed racquets to serve and return the ball. Credit may be earned in LW 131 or LWA 131 but not in both. (0-30)

LWA 137 Tennis I 1 Sem Hr
Introduces the basic strokes in tennis along with rules, strategies, and courtesies of the game. Credit may be earned in LW 137 or LWA 137 but not in both. (0-30)

LWA 150 Kettlebell Training 1 Sem Hr
Introduces Kettlebell training concepts. Presents, develops, and practices Kettlebell training methods for muscular strength and endurance. Pre and post fitness assessment testing will be done and individual printouts will be made available. (15-15)

LWA 151 Kick Boxing 1 Sem Hr
Presents Kick Boxing as a means of self-defense and conditioning. Provides maximum cardiorespiratory benefits, muscular endurance, speed, and agility in addition to balance, flexibility, and mind/body integration. Credit may be earned in LW 151 or LWA 151 but not in both. (15-15)

LWA 152 Astanga Yoga 1.5 Sem Hrs
Introduces the basic tools used in learning Astange Yoga. Uses sequential postures, called asana, for linking together a vigorous flow of movements. Includes workout that is physically, spiritually, and mentally engaging. Credit may be earned in LW 152 or LWA 152 but not in both. (15-30)

LWA 153 Dance Aerobics 1 Sem Hr
Provides information and skills needed to assess and improve fitness through the use of aerobic dance, exercises to music, and analysis of personal nutrition habits. Credit may be earned in LW 153 or LWA 153 but not in both. (0-30)

LWA 154W BOSU Ball Training 1 Sem Hr
Introduces fitness training concepts utilizing a BOSU ball. Presents training methods for improving muscle strength, endurance, balance, agility, and flexibility. Presents, develops, and practices BOSU ball activities that provide cardiorespiratory benefits and improved body composition. Pre- and post-fitness assessments will also be performed and results will be explained. (15-15)

LWA 155 Slide Aerobics 1 Sem Hr
Prepares and strengthens the body for lateral or angular stress while providing a superb cardiovascular workout. Incorporates upper and lower body strength and endurance resistance exercises in addition to developing endurance, power, and balance. Credit may be earned in LW 155 or LWA 155 but not in both. (0-30)

LWA 156W Stability Ball Training 1 Sem Hr
Introduces fitness training concepts utilizing a stability ball. Presents training methods fro improving muscle strength, endurance, and flexibility. Also presents, develops, and practices stability ball activities that provide cardiorespiratory benefits and improved body composition. Provides effective balance training through use of the stability ball as a tool. Pre- and post-fitness assessments will also be performed and results will be explained. Credit may be earned in LW 156W or LWA 156W but not in both. (15-15)

LWA 157 Step Aerobics 1 Sem Hr
Incorporates bench stepping to enhance cardiorespiratory endurance and muscle tone using the aerobic principle. Emphasis on the importance of fitness and a healthy lifestyle is also applied. Credit may be earned in LW 157 or LWA 157 but not in both. (0-30)

LWA 158 Pilates 1 Sem Hr
Provides total body strengthening, stretching, and conditioning through Pilates-based mat work to achieve overall fitness and improved health. Focuses on the attainment of core strength in the abdomen and trunk. Includes specific exercises concentrating on the use of breathing patterns to help control movement, and visual imagery to engage the mind and body together. Credit may be earned in LW 158 or LWA 158 but not in both. (15-15)

LWA 159 Fitness Walking 1 Sem Hr
Introduces the concept of daily walking to contribute to one's wellness, with emphasis on developing personal walking program. Credit may be earned in LW 159 or LWA 159 but not in both. (15-15)

LWA 160 Nordic Walking 1 Sem Hr
Introduces the concept of Nordic walking and instructs safe and effective techniques using the Nordic poles to enhance one's wellness. Includes conducting pre and post fitness assessment and developing a personal Nordic walking program. (15-15)

LWA 163 Modern Dance I 1 Sem Hr
Introduces the fundamentals of body movement through rhythmic activities designed to improve strength, flexibility, timing, spatial awareness, and coordination. Includes improvisation, simple choreography, and a brief survey of the history of modern dance and the contemporary dance scene. Credit may be earned in LW 163 or LWA 163 but not in both. (0-30)

LWA 165 Jazz Dance I 1 Sem Hr
For the beginner, an introduction to basic jazz dance techniques (stretches, isolations, floor work, turn and locomotor patterns, etc.) and practice in combining them into dance phrases. There will be simple choreography problems and a survey of the history of jazz dance and of the contemporary jazz dance scene. Credit may be earned in LW 165 or LWA 165 but not in both. (0-30)

LWA 167 Ballet I 1 Sem Hr
Introduces the basic movements of ballet coordinated with exercises for stretching, flexing, and toning. Includes postural alignment and correction, basic barre work, and beginning center adage and allegro movements. (0-30)

LWA 172 Swimming I 1 Sem Hr
Develops fundamental swimming and safety skills. Credit may be earned in LW 172 or LWA 172 but not in both. (0-30)

LWA 173 Swimming II 1 Sem Hr
Prerequisite: LWA 172. Introduces theory and practice of the five basic swimming strokes (front crawl, side stroke, elementary back stroke, and breast stroke). Emphasizes water safety skills and knowledge. Credit may be earned in LW 173 or LWA 173 but not in both. (0-30)

LWA 174 Swimming III Conditioning 1 Sem Hr
Prerequisite: LWA 173 Acquaints the student with the basic principles of cardiovascular fitness and strength in order to increase these components of fitness through swimming. Credit may be earned in LW 174 or LWA 174 but not in both. (0-30)

LWA 183 Water Aerobics 1 Sem Hr
Introduces the basic concepts of water resistance and incorporates them into an individual fitness program that promotes strength, flexibility, and aerobic capacity. Swimming skills not required. Credit may be earned in LW 183 or LWA 183 but not in both. (0-30)

LWA 204 Bicycling For Fitness 1 Sem Hr
Introduces the fundamentals of cycling as a means to obtain or improve current levels of health or conditioning. Emphasizes cardiorespiratory health, muscular strength/endurance, flexibility, and body composition. Includes selection and maintenance of equipment, pedaling, and correct techniques of gear shifting. Student must furnish any type of bike (road, hybrid, or mountain). (0-30)

LWA 206B Occupational Wellness 2 .5 Sem Hr
Prerequisite: Admission to restricted enrollment programs. Continues wellness concepts, behavioral patterns, and activities that can be incorporated into the lifestyles of those working in a wide variety of occupation settings. Credit may be earned in LW 206B or LWA 206B but not in both. (0-15)

LWA 206C Occupational Wellness 3 .5 Sem Hr
Prerequisite: Admission to restricted enrollment programs. Continues wellness concepts, behavioral patterns, and activities that can be incorporated into the lifestyles of those working in a wide variety of occupation settings. Credit may be earned in LW 206C or LWA 206C but not in both. (0-15)

LWA 210 Tae Kwon Do III 1 Sem Hr
Prerequisite: LWA 114. Provides an opportunity to utilize advanced techniques in a non-contact martial art class at an advanced intermediate level. (0-30)

LWA 279 Defensive Tactics in Corrections 1 Sem Hr
Prerequisite: Permission of Instructor. Concurrent enrollment in CJ 102 and LWT 170 for Jail Officer Academy (Local Corrections Officer Certification Academy). Teaches methods of self-defense using pressure points and leverage for subject control. Emphasizes subduing dangerous or violent individuals for criminal justice purposes. Includes Pressure Points Control Tactics (PPCT), Ground Avoidance Ground Escape (GAGE) and Spontaneous Knife Defense. (0-40)

LWA 280 Self-Defense/Fitness 2 Sem Hrs
Prerequisite: Permission of instructor. Concurrent enrollment in CJ 101, LWT 175, and OAT 153 for Basic Police Training Academy. Teaches methods of self-defense using pressure points and leverage for subject control. Emphasizes subduing dangerous or violent individuals for criminal justice purposes. Fitness module emphasizes regular program of calisthenics, stretching, strength building, and conditioning through aerobic and non-aerobic activities. Grade of "C" (2.0) or better in this course in order to complete Basic Police Training Academy. Credit may be earned in LW 280 or LWA 280 but not in both. (0-60)

LWA 290-299 Special Projects in Lifelong Wellness Activity N/A Sem Hrs

Lifelong Wellness Theory

LWT 165 Community First Aid 1 Sem Hr
Introduction to basic first aid skills. Necessary as the primary link in the Emergency Medical Services system. Adult CPR certification may be received. (15-0)

LWT 170 Basic Life Support for the Health Care Provider 1 Sem Hr
Develops cardiopulmonary resuscitation (CPR) and automated external defibrillator (AED) knowledge and skills to the level of a health care provider. (15-0)

LWT 175 Advanced First Aid and Emergency Care 3 Sem Hrs
Prerequisite: Permission of instructor. CJ 101, LW 280, and OAT 153 must be taken concurrently for Basic Police Training Academy. Provides knowledge and practical skills necessary to assist victims of injury or sudden illness. Covers CPR, wounds, choking, poisoning, substance abuse, burns, exposure to heat and cold, emergency childbirth, fractures, stroke, convulsive disorders, diabetes, auto and pool extrication. Successful completion of course entitles student to American Red Cross CPR and Advanced First Aid Certifications. Grade of "C" (2.0) or better in this course in order to complete Basic Police Training Academy. (45-15)

LWT 176 Lifeguarding 1 Sem Hr
Prerequisite: Skill and knowledge of the five basic strokes. Provides knowledge and skills of the American Red Cross units and progressions. Results in certification upon successful completion of all the lifesaving and water safety requirements. Credit may be earned in LW 176 or LWT 176 but not in both. (0-30)

LWT 181 Adapted Aquatics Aide 1 Sem Hr
Introduces swimming techniques, water exercises, simulation of disabilities, supervised practice teaching, and basic water safety involved with physical and mental impairments. Credit may be earned in LW 181 or LWT 181 but not in both. (0-30)

LWT 185 Water Safety Instructor 1 Sem Hr
Prerequisite: Current American Red Cross Emergency Water Safety or Lifeguard card and swimmer level skills. Provides theory and techniques in aquatics, practice teaching, water safety, survival swimming, swimming program development and pool and waterfront administration. Certification as a Water Safety Instructor may result upon satisfactory completion of the course. Credit may be earned in LW 185 or LWT 185 but not in both. (0-30)

LWT 186 Women's Self Defense 1 Sem Hr
Provides female students with information, tactics, and considerations that may be useful in avoiding and defending themselves against attacks. (15-0)

LWT 210 Nutrition: The Science of Optimal Living 3 Sem Hrs
Presents nutrition science as a key element for optimal living. Evaluates and applies diet plans and principles, food nutrients, metabolism, diet analysis, and the health effects of nutrition. (45-0)

LWT 211W Sports Nutrition 3 Sem Hrs
Prerequisite: LWT 210. Examines the metabolic and physiologic basis for macronutrient and micronutrient recommendations during general exercise, pre-season training, competition/performance, and recovery. Includes nutritional assessments of exercises varying in intensity and duration, training and recovery periods, and various sports demands. (45-0)

LWT 212 Introduction to Meditation 1 Sem Hr
Provides an overview of the history and purpose of meditation. Introduces students to the practice of various meditation techniques. Emphasizes the role of meditation for concentration, relaxation, stress relief, and personal and spiritual growth. (15-0)

LWT 213W Vitamins Minerals and Health 3 Sem Hrs
Prerequisite: LWT 210 Studies the various rating systems for the daily intake of vitamins; functions and uses of specific vitamins, minerals and other key supplements; signs of deficiency for specific nutrients; and recommends amounts of specific nutrients for average people and individuals with specific needs. (45-0)

LWT 230 Theory of Strength and Conditioning 3 Sem Hrs
Prerequisite: BIO 101, BIO 140 or BIO 152 with a "C" (2.0) minimum grade. Explores a variety of strength training principles and theories through the study of multiple exercise modes including free and machine weights, plyometrics, speed and agility, and cardiovascular training. Discusses specific anatomy and physiology, as well as exercise guidelines, in preparation for program development. (45-0)

LWT 231W Introduction to Athletic Training 3 Sem Hrs
Introduces students to the roles, responsibilities, and qualifications of a Certified Athletic Trainer (A.T.C.). Provides an overview of the basic knowledge and skills possessed by an A.T.C. including their role in the sports medicine team, nutrition, injury prevention, assessment, and treatment, as well as learning to identify emergency situations and provide direction for their management. (45-0)

LWT 240 Health Fitness Instructor/Personal Trainer 4 Sem Hrs
Prerequisites: BIO 101 or BIO 152 and LWT 251 or BIO 251 with a "C" (2.0) minimum grade. Introduces the skills and knowledge needed to become a certified personal trainer. Covers how to screen and evaluate prospective clients, design safe and effective exercise programs, identify physiological and psychological response to exercise, promote lifestyle behavior modification, quantify the energy cost of work (physical activity), and communicate effectively. Includes self-employment issues as well as legal issues. (60-0)

LWT 241 Personal Trainer 4 Sem Hrs
Prerequisite: BIO 101, BIO 111, or BIO 130. Introduces the skills and knowledge needed to become a certified personal trainer. Covers how to screen and evaluate prospective clients, design safe and effective exercise programs, and instruct clients in correct exercise technique to avoid and prevent injury. Includes self-employment issues as well as legal issues. (60-0)

LWT 242 Group Fitness Instructor 4 Sem Hrs
Prerequisites: BIO 101 or BIO 152; and LW 220 or LW 221; and concurrent enrollment in one of the following: LWA 151, LWA 153, LWA 155, or LWA 157. Introduces the skills and knowledge needed to become a certified Group Fitness Instructor. Includes how to screen and evaluate prospective clients, design safe and effective exercise programs, instruct clients in correct exercise techniques to avoid injury, and respond to the typical questions and problems that arise in a group exercise setting. (60-0)

LWT 251 Exercise Physiology 4 Sem Hrs
Prerequisites: BIO 101 or BIO 152; and LW 220 or LW 221. Emphasizes the physiological responses of the human body to acute and chronic bouts of exercise. Presents the study of health/fitness appraisal, exercise prescription, quantifying the energy cost of work (physical activity), identifying physiological and psychological responses to exercise, and the administration of exercise programs to diverse populations. Credit may be earned in LWT 251 or BIO 251 but not both. (60-0)

LWT 252 Environmental Physiology - The Limits of Human Performance 3 Sem Hrs
Prerequisites: BIO 101 or BIO 153 or BIO 241. Emphasizes the physiological responses of the human body to acute and chronic bouts of varying environmental conditions. Presents the study of physiological responses to hot and cold environments, altitude, underwater and microgravity environments, and the effect of air quality on human performance. (30-15)

LWT 254W Research Methods 2 Sem Hrs
Prerequisite: LWT 251 or Instructor Permission. Supervises student activities on research projects identified on an individual or small-group basis. Highlights the research process while providing hands on opportunities to design a research study, to collect and analyze data, and to submit an abstract for consideration for presentation at a regional/national conference. Emphasizes research in the health and fitness fields including, but not limited to, exercise physiology, nutrition, body composition, exercise adherence and sport competitions. (30-0)

LWT 255 Health Fitness Management and Promotion 3 Sem Hrs
Introduces and explores the different and interesting settings in which health and fitness educators practice and the job responsibilities and opportunities within each of those settings. Emphasizes application, skill development, and professional identity and direction in health promotion occupations. (45-0)

LWT 260 Health Fitness Experience 5 Sem Hrs
Prerequisite: LWT 210, LWT 230, LWT 240, LWT 251, and LWT 255. Introduces Health Fitness Education and Promotion students to "on the job" experiences within the Health Promotion field. Includes exercise prescription, health education, health promotion administration and program development in the 300-hour internship experience. Students must have current CPR certification. (9-80)

LWT 266 Teaching of Elementary Physical Education 3 Sem Hrs
For prospective teachers; deals with curriculum development, principles, methods and materials used in conjunction with the teaching of physical education in the elementary schools. (45-0)

LWT 290-299 Special Projects in Lifelong Wellness Theory

Management

MGT 110 Business Mathematics 3 Sem Hrs
Prerequisite: MATH LEVEL 3. Covers principles necessary for an understanding of math of the business world. Includes various methods of computing interest and bank discounts; installment buying; F.I.C.A. Federal Income Taxes and other payroll deductions; markup, cost and selling prices; various wage payment systems; sales and property taxes; insurance; measures of central tendency; and an introduction to the metric system. (45-0)

MGT 143 Principles of Advertising 3 Sem Hrs
Provides a broad view of advertising from the marketing and consumer point of view. Historical background, economic and social aspects, roles of advertising, advertising stages, target marketing, media, using selected behavioral science information in advertising, and obtaining proper advertising appeal are included. (45-0)

MGT 145 Principles of Sales 3 Sem Hrs
Emphasizes the marketing concept and the importance of personal selling for those engaged in the marketing of products, services or ideas. Includes an analysis of the steps in a sales proposal. Classroom presentations by students required. (45-0)

MGT 151 Visual Merchandising 3 Sem Hrs
Explores display as a major component of sales promotion. Studies color and basic design principles in terms of their application to display. Analyzes functions, types, and tools of display. Designs and coordinates windows and interior displays. Covers steps in planning and coordination sales promotions. Emphasizes planning, producing and evaluating effective visual displays. (45-0)

MGT 152 Textiles 3 Sem Hrs
Studies natural and man-made fibers, their properties and unique characteristics. Identifies fabrics used in wearing apparel and interior design; fabric production, performance and use; final processes and finishes; the study of weaves, pattern and color. (45-0)

MGT 153HW Introduction to Business - Honors 3 Sem Hrs
Prerequisites. READING LEVEL 5 or 5B and WRITING LEVEL 4 or 4B and permission of the Honors Office. Clarifies the role of business in modern society both domestic and international. Includes an overview of the American business environment, forms of business ownership, obtaining and managing financial resources, management of organizations and human resources, and current issues in the free enterprise system. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. (45-0)

MGT 153W Introduction to Business 3 Sem Hrs
Clarifies the role of business in modern society both domestic and international. Includes an overview of the American business environment, forms of business ownership, obtaining and managing financial resources, management of organizations and human resources, and current issues in the free enterprise system. (45-0)

MGT 157 Principles of Merchandising 3 Sem Hrs
Studies merchandising, with an emphasis on contemporary designers and issues. Explores primary, secondary, and consumer markets. Discusses merchandise characteristics, planning and profitability. Addresses technology in the merchandising environment. (45-0)

MGT 243 Principles of Marketing 3 Sem Hrs
Prerequisite: CST 147. MGT 153 is recommended. Provides an understanding and interpretation of the marketing system and its importance in the economy and the place of the marketing function in business management. Establishes a basic understanding of the psychological, environmental, and managerial functions and presents processes that are employed in contemporary marketing. (45-0)

MGT 245 Principles of Management 3 Sem Hrs
Prerequisite: MGT 153 is recommended. Discusses theories of management practices and explains fundamentals of administrative, executive, and staff management. Emphasizes the management functions of planning, organizing, directing, controlling, as well as preparation of information required for decision making. Covers the analysis of management problems and the synthesis of solutions. (45-0)

MGT 247 Principles of Retailing 3 Sem Hrs
Perquisite: Completion of or concurrent enrollment in CST 147. MGT 153 is recommended. Discusses store location, organization structure, and retail personnel management in detail. Presents merchandising policies and budgets, and buying and pricing merchandise. Presents in some detail retail advertising, personal selling, customer services, and loss prevention. Discusses the scope of the retailing industry, requirement of retail management as well as careers in retailing. (45-0)

MGT 248 Principles of Buying for Resale 3 Sem Hrs
Prerequisite: MGT 110. MGT 247 is recommended. Explores the buying function in retailing and wholesaling in depth. Covers the principles of foreign and domestic vendor location and the legality and ethics in the buyer-vendor relationship. Studies the factors determining merchandise selection, including consumer analysis, building model stocks, and estimating sales potential. Studies merchandising expense control factors, manual and computer inventory control systems, as they relate to buying. (45-0)

MGT 251W Business Law I 3 Sem Hrs
This course provides a comprehensive study of both state and federal court systems, and the relationships of the participants in a lawsuit, including judges, juries, litigants, witnesses and attorneys. Particular areas of business law that are studied in the context noted above include tort law, contract law, agency law, and the law of personal property and bailments. (45-0)

MGT 252 Business Law II 3 Sem Hrs
Prerequisite: MGT 251 or permission of instructor. This course provides a continued study of court systems, with emphasis in specialized areas of business law including sales law, commercial paper law, secured transactions and bankruptcy law, real property law and corporation law. The Uniform Commercial Code and recent consumer protection legislation are stressed. (45-0)

MGT 254 Applied Marketing 3 Sem Hrs
Prerequisite: MGT 143 and MGT 243. Introduces strategic marketing decisions using cases and real life experiences. Introduces the conception, development and implementation of a marketing activity, that will be conducted by the students, with an actual budget. Uses practical experience in preparing and giving several types of presentations to live audiences. (45-0)

MGT 256 Human Resources Management I 3 Sem Hrs
Prerequisite: MGT 153 is recommended. Development of human resources management; the environment in which human resources management must operate; contemporary legal guidelines; human resource planning and recruitment; developing effectiveness in human resources through training, development, and appraisal; and creating a productive work environment through motivation, communication, leading and directing. (45-0)

MGT 257W Human Resources Management II 3 Sem Hrs
Prerequisite: MGT 256 or permission of instructor. Develops advanced understanding in a variety of Human Resource topics which may include but is not limited to employee-management relationships, dynamics of labor relations, collective bargaining, disciplinary action, compensation management, incentive compensation, employee benefits, safety and health, auditing the Human Resources Management program, and international Human Resources Management. (45-0)

MGT 265 International Business 3 Sem Hrs
Prerequisite: MGT 153 is recommended. An examination of the three environments within which the typical business person must function in a global economy: domestic, foreign and international. The international organizations (i.e., GATT, IMF, OPEC, EC and the UN) and the international monetary system will be covered. Physical, sociocultural, political, legal, labor and financial forces in global markets will be analyzed. Case studies will be used to emphasize management decision making in marketing, production, financing and staffing in world-wide companies. (45-0)

MGT 275 Management Seminar 3 Sem Hrs
Prerequisites: MGT 110, MGT 153W, MGT 245 and OAT 151. Enhances and integrates topics introduced in the Management Program courses. Includes discussion of a variety of significant issues related to management, decision-making, teamwork, conflict, sustainability, and organizational leadership in today's dynamic, customer-driven, global economy. Focuses on the variety of management models and leadership styles. Uses peer-teaching and learning approaches, involves group learning experiences in a team environment, requires practical application of concepts, and includes research and case studies in a seminar format. Culminates the management associate degree program (45-0)

MGT 280 Market Experience New York 2 Sem Hrs
Prerequisite: Permission of instructor. Studies the New York business market through visits to manufacturers, designers, buyer showrooms, resident buying offices, advertising agencies, retailers, museums, Wall Street, and other places of interest. Students pay tuition plus all their expenses. (30-0)

MGT 281 Market Experience Chicago 1 Sem Hr
Prerequisite: Permission of instructor. Students will study the Chicago market through visits to the Apparel Center, buyers showrooms, resident buying offices, designers, ready-to wear merchants, the Mercantile Exchange, and other areas of interest. Students pay tuition plus all their expenses. (15-0)

MGT 290-299 Special Projects in Management Sem Hr

Manufacturing & Industrial Technology

MIT 111W Manufacturing Processes 3 Sem Hrs
Prerequisite: MATH LEVEL 4. Teaches the fundamentals of engineering materials and manufacturing processes, and how they interrelate in the design of products. Credit may be earned in MFG 111 or MIT 111 but not in both. (45-0)

MIT 118 Safety Practices and Procedures 2 Sem Hrs
Safety fundamentals as related to the economics of accident prevention, analysis of accident causes, mechanical safeguards, fire prevention, facilities housekeeping, occupational diseases, first aid, safety organization, protective equipment, and the promotion of safe practices. Credit may be earned in IS 118 or MIT 118 but not both. (30-0)

MIT 210 Lean Thinking Strategies 3 Sem Hrs
Explores the principles of Lean Thinking as a method of organizational management. Emphasizes the techniques used to achieve quality, cost and delivery goals such as Just-In-Time or Pull systems, 5-S, value stream mapping, workplace organization and visual controls. Discusses the roles and responsibilities in the organization for allocating resources to achieve lean management. Credit may be earned in MFG 113, MFG 114, and MFG 115 or MFG 210 or MIT 210 but not in more than one. (45-0)

MIT 212 Manufacturing Cell 2 Sem Hrs
Introduces the manufacturing cell as it relates to the workplace. Teaches various cell information, i.e. tooling, material handling, layout, etc. Credit may be earned in MFG 212 or MIT 212 but not in both. (30-0)

MIT 213 Mechanical Power Transmission 3 Sem Hrs
Prerequisites: DRF 121, MS 113 or MS 114, and MT 221. Develops skills in designing and specifying mechanical power transmission components for use in a product or process. Uses mathematical skills to design parts, calculate design requirements, specify commercial components and design the layout of the mechanical power drive train. Verifies that the assembly meets all specifications and quality requirements. Develops a Bill of Materials for the mechanical power transmission components. Uses presentation skills to demonstrate how the components were designed and specified. Credit may be earned in MFG 213 or MIT 213 but not in both. (45-0)

MIT 240 Manufacturing and Industrial Technology Capstone 3 Sem Hrs
Prerequisites: CAD 114, and CAD 226, and CNC 225 and instructor permission. Demonstrates application based activities that tie previous manufacturing learning together. Incorporates skills learned in drafting, CAD CAM, and manual and CNC machining to complete a capstone project. Applies critical thinking skills in design, build and test of the product. Includes process planning, cost analysis and marketing as part of the capstone project. Requires a final presentation of product design and development. Must request approval from program coordinator to apply for capstone course one semester prior to enrollment. (0-45)

MIT 290-299 Special Projects in Manufacturing and Industrial Technology
N/A

Machine Tool Operation

MS 113 Introduction to Machining Processes 2 Sem Hrs
Introduces the manufacturing facility. Utilizes safety, materials, hand tools, precision instruments, drill presses, lathes, mills, grinders, and saws. (30-30)

MS 120 Machinery's Handbook 3 Sem Hrs
Prerequisite: MS 113 or MS 114 or SKTR 182; and SKMA 103 or MTH 103 or MT 110. Focuses on learning how to use and understand the Machinery's Handbook. Credit may be earned in either MS 120 or SKTR 183 but not both. (45-0)

MS 181W Machine Tools I 4 Sem Hrs
Prerequisite: MS 113 or instructor permission. Introduces the manufacturing facility. Utilizes safety, materials, hand tools, precision instruments, drill presses, lathes, mills, pedestal grinders, and saws. Studies fundamentals and procedures to provide an understanding of manufacturing processes. Demonstrates greater knowledge of machine tool practices and applies that knowledge to educate others. Credit may be earned in MS 114 or MS 181 or SKTR 181 but not more than one. (30-60)

MS 182 Machine Tools II 4 Sem Hrs
Prerequisites: MS-181 or SKTR-181 or permission of instructor. Trains in the set up and operation of various metal working machines and construction of projects from engineering drawings. Trains in use of a variety of measuring instruments to take measurements of one thousandth of an inch or closer. Utilizes safety, mills, lathes, drill presses, saws, grinders, speeds and feeds to complete duty and task list. Credit can be earned in MS 130 or MS-182 or SKTR 182, but not more than one. (45-45)

MS 230 Machine Tools III 4 Sem Hrs
Prerequisites: MS 182 or SKTR-182 or permission of instructor. Trains in advanced set up and operation of various metal working machines to construct projects from engineering drawings. Trains in use of a variety of measuring instruments to take measurements of one ten thousandth of an inch or closer. Utilizes safety, materials, hand tools, precision measuring instruments, lathes, mills, flat surface grinders OD and ID surface grinders. Emphasizes jigs, fixturing, part location, speeds and feeds. (0-90)

MS 290-299 Special Projects in Machine Tool Operations

Mechanical Technology

MT 110 Machine Tool Calculations 4 Sem Hrs
Prerequisite: Math Level 4. Includes the following geometry topics: angles, triangles, polygons, circles, prisms, cylinders, and cones. Includes right-triangle trigonometry, radian measure, oblique-triangle trigonometry, and graphs of trigonometric functions. May receive credit in only one of the following: MTH 103, SKMA 103 or MT 110. (60-0)

MT 151 Power Transmission 3 Sem Hrs
Prerequisite: MATH LEVEL 5: Identifies and explains safety rules, regulations, test procedures, installation, removal, and operation of belt drives, chain drives, mechanical couplings, and mechanical drive systems. Demonstrates the concepts of shaft alignment. Credit may be earned in MT 151 or SKMT 151 but not both. (30-15)

MT 161 Industrial Rigging and Safety 2 Sem Hrs
Prerequisite: MATH LEVEL 3. Studies the methods of safe transfer of loads and provides comprehensive, easy to understand, and reliable information of the entire field of rigging operations. Discusses techniques and methods to accomplish the rigger's task with the greatest safety for all of the workers on a project, as well as for passers-by and the public in general. Identifies sources of, organizes, and describes safety rules, regulations and practices related to job-site hazards, personal protective equipment, aerial work, hazard communication, and electrical safety. Credit may be earned in MT 161 or SKMT 161 but not both. (15-15)

MT 220 Hydraulics and Pneumatics I 3 Sem Hrs
Prerequisite: MATH LEVEL 4. Focuses on the operation and function of fluids, pumps, compressors, valves, cylinders, motors, filters, and other components used in the power and control of machine tools, construction and agricultural equipment. Uses algebraic formulas, charts, and graphic symbols for design and diagnosis of basic circuits. Credit may be earned in either SKMT 101 or MT 220 but not in both. (30-30)

MT 221W Introduction to Engineering Materials 3 Sem Hrs
Prerequisite: MIT 111 and MATH LEVEL 6. Examines the physical, chemical and mechanical properties of metals, ceramics, polymers, and composite materials and relates these properties to application requirements. Exams the micro and macro structures of these materials along with the tests and measurements designed to identify them. Discusses concepts necessary to the selection and specification of materials for making products and building structures. (30-30)

MT 250 Statics and Strength of Materials 4 Sem Hrs
Prerequisites: PHY 111 and MTH 121. Studies forces acting on rigid bodies, including applications of these forces to practical design problems. Introduces and uses concepts of stress in tension, compression, torsion, and shear in various combinations. (60-0)

MT 251 Statics and Dynamics 3 Sem Hrs
Prerequisites: PHY 111 and MTH 121. Studies statics and dynamics of mechanical systems by solving problems of small sub-systems using a calculator. Studies forces in 2-D and 3-D acting on particle systems and rigid bodies. Solves problems using the following concepts: equilibrium laws, centroids, center of gravity, moment of inertia. Uses 3 methods to study dynamics of motion - kinematics, work/energy and impulse/momentum. (45-0)

MT 252 Strength of Materials 3 Sem Hrs
Prerequisites: ENG 112 or ENG 113 and MT 251. Uses mathematical and computer methods, as well as Mohr's circle, to determine stress, strain, load, and deflection relationships for structure and machine elements. Uses machine components in tension, compression, or shear, beams in bending or deflection, columns, and bolted joints in design calculations. (45-0)

MT 256 Machine Design 3 Sem Hrs
Prerequisites: MT 250 with a grade of "C" or better. Uses hand calculator and computer methods to solve for the dimensions and allowable loads of machine elements and power trains. Studies shafts, keyed couplings, bearings, gear trains, V-belt and chain drives, springs and fasteners. Requires a final design using CAD. (45-0)

MT 290-299 Special Projects in Mechanical Technology

Mathematics

MTH 090 Math Study Skills and Practical Applications 2 Sem Hrs
Concurrent enrollment in a math course is required. Practices success strategies to be utilized in a math class. Includes learning styles, memory process, math anxiety, time management, reading, test taking, as well as other study skills. Applies success strategies to their current math class as well as collaborative problem solving using quantitative literacy applications from many other disciplines. Does not earn credit toward graduation. (30-0)

MTH 092 Basic Mathematics 2 Sem Hrs
Prerequisite: MATH LEVEL 1. Provides a foundation in arithmetic. Covers four fundamental operations of whole numbers, fractions, and decimals. Includes percentages, ratios, proportions, and applications. Does not earn credit toward graduation. (30-0)

MTH 096 Pre-Algebra 2 Sem Hrs
Prerequisite: MATH LEVEL 2. Provides preparation for algebra. Includes fractions, decimals, integers, ratios, and percentages with an introduction to equations, graphs, and functions. May receive credit in only one of the following: MTH 106 or MTH 096 or SKMA 096 or SKMA 101. Does not earn credit toward graduation. (30-0)

MTH 097 Algebra I 3 Sem Hrs
Prerequisite: MATH LEVEL 3. Includes natural numbers, integers, first-degree equations and inequalities, special products, factoring, rational expressions and equations, graphs, and linear systems, exponents, and quadratic equations. May receive credit in only one of the following: MTH 107 or MTH 097 or SKMA 097 or SKMA 102. (Equivalent to first year high school algebra). Does not earn credit toward graduation. (45-0)

MTH 103 Applied Geometry and Trigonometry 4 Sem Hrs
Prerequisite: Math Level 4. Includes the following geometry topics: angles, triangles, polygons, circles, prisms, cylinders, and cones. Includes right-triangle trigonometry, radian measure, oblique-triangle trigonometry, and graphs of trigonometric functions. May receive credit in only one of the following: MTH 103 or SKMA 103 or MT 110. (60-0)

MTH 115W Mathematics for Elementary Teachers I 3 Sem Hrs
Prerequisite: MTH 097 with a grade of "C" or better or an acceptable score on the current college assessment instrument. Includes numeration systems, sets and their properties, classification of number systems (whole numbers through real number), operations and their properties, arithmetical algorithms, and problem solving. Uses a variety of learning styles, manipulatives, and calculator and computer applications. The National Council of Teachers of Mathematics Standards are incorporated. Students may use either MTH 115W or MTH 110, not both, to fulfill graduation requirements. (45-0)

MTH 116W Mathematics for Elementary Teachers II 3 Sem Hrs
Prerequisite: MTH 115 or MTH 110 with a grade of "C" or better. Investigates problem solving, statistical charts and graphs, geometric figures and properties, and measurement systems including metric. Reviews fractions, decimals, percents, real numbers, their operations and properties. Reviews algebra of lines and equations. Includes a variety of learning styles using manipulatives, calculators and computer application. The National Council of Teachers of Mathematics Standards are incorporated. (45-0)

MTH 117 Math for Allied Health 2 Sem Hrs
Prerequisite: MATH LEVEL 3. Reviews (very briefly) fractions, decimals, percentages, and proportions. Includes a study of the metric system and the household system with applications in converting from one system to another. Emphasizes applications including those involved in giving medications and in finding times and various rates for intravenous feedings. (30-0)

MTH 118W Mathematical Explorations 4 Sem Hrs
Prerequisite: MATH LEVEL 4. Provides a course for students majoring in fields that do not have a specific mathematics requirement. Emphasizes practical applications of mathematics, problem solving, and the communication of mathematics. Includes core topics in Finance, Probability, Statistics, and Geometry. Integrates measurement in the geometry topic, and infuses algebra throughout all topics. A minimum of 4 additional topics will be selected from Economics, Calculus, Graph Theory, Set Theory, Game Theory, Number Theory, Logic, Voting, Apportionment, Combinatorics, Linear Programming, or other approved topics. A GRAPHING CALCULATOR IS REQUIRED. (60-0)

MTH 119AW Intermediate Algebra Extended Hours 4 Sem Hrs
Prerequisite: MATH LEVEL 4 or MTH 097 with a grade of C or better. Includes fundamental concepts of algebra and applications, equation solving, graphs, systems of linear equations, quadratic equations, algebraic fractions, exponents, radicals, functions, and logarithms. Same content as MTH 119, but class meets 2 additional contact hours per week to allow 50% more time to review and learn each concept in MTH 119. Credit may be earned in MTH 119 or MTH 119A, but not both. A GRAPHING CALCULATOR IS REQUIRED (90-0)

MTH 119W Intermediate Algebra 4 Sem Hrs
Prerequisite: MATH LEVEL 5. Includes fundamental concepts of algebra and applications, equation solving, graphs, systems of linear equations, quadratic equations, algebraic fractions, exponents, radicals, functions, and logarithms. Credit may be earned in MTH 119 or MTH 119A, but not both. A GRAPHING CALCULATOR IS REQUIRED. (60-0)

MTH 120 Finite Mathematics 3 Sem Hrs
Prerequisite: Any MTH 119 with a grade of "C" or better or two years of high school algebra. Includes topics of mathematical modeling (polynomial and rational functions; their graphs and applications; and arithmetic and geometric progressions), systems of equations and inequalities, linear programming, and an introduction to probability (binomial distributions and graphing qualitative data). Covers computer applications of some topics. A GRAPHING CALCULATOR IS REQUIRED. (Those students planning to take MTH 161 should take MTH 151 rather than MTH 120.) (45-0)

MTH 121 Plane Trigonometry 3 Sem Hrs
Prerequisite: Any MTH 119 with a grade of "C" or better or two years of high school algebra. Includes trigonometric functions and their graphs, solution of triangles, identities, trigonometric equations, inverse trigonometric functions, and complex numbers. A GRAPHING CALCULATOR IS REQUIRED.(45-0)

MTH 122W College Algebra 4 Sem Hrs
Prerequisite: MATH LEVEL 6. Reviews the mechanics of basic Algebra and solidifies understanding by using algebraic techniques, constructing mathematical models, solving problems and interpreting results. Includes: algebraic expressions; equations and inequalities; functions, inverse functions, and graphs; polynomial and rational functions; radical functions; exponential and logarithmic functions; matrices and determinants; systems of equations and inequalities; complex numbers; sequences and series. A GRAPHING CALCULATOR IS REQUIRED. (60-0)

MTH 151 Pre-Calculus Mathematics 4 Sem Hrs
Prerequisite: Any MTH 119 and MTH 121 with grades of "C" or better, or three years of high school college-preparatory mathematics including trigonometry. MTH 121 may be taken concurrently with instructor approval. Designed for students planning to take calculus. Includes a study of the elementary functions, equations and inequalities, systems of equations, review of trigonometry, and analytic geometry. A GRAPHING CALCULATOR IS REQUIRED. (60-0)

MTH 153 Algebra for Calculus 3 Sem Hrs
Prerequisites: Two years of high school algebra and permission of the instructor. Provides a review of algebra as related to calculus topics of limits, differentiation, and integration. Please note: This is a special section of math that may not be used to fulfill prerequisites required for other Delta College math courses. (45-0)

MTH 160 Calculus for the Social and Managerial Sciences 4 Sem Hrs
Prerequisite: MATH LEVEL 8, or MTH 120 or MTH 121 or MTH 122 or MTH 151 with a "C" or better or three and a half years of high/school-college preparatory mathematics. Satisfies the mathematics requirements for students majoring in business or social sciences. Covers topics including graphing, differentiation, and integration of functions (algebraic, exponential, and logarithmic), and the use of these techniques within business and economic models. A GRAPHING CALCULATOR IS REQUIRED. (60-0).

MTH 161 Analytic Geometry and Calculus I 4 Sem Hrs
Prerequisite: MTH 151 with a grade of "C" or better or four years of high school college-preparatory mathematics including trigonometry. Includes functions, graphs, limits, continuity, derivatives and their applications, integrals, as well as differentiation and integration of exponential and logarithmic functions. A GRAPHING CALCULATOR IS REQUIRED. (60-0)

MTH 162 Analytic Geometry and Calculus II 4 Sem Hrs
Prerequisite: MTH 161 with a grade of "C" or better. Includes applications of integrals, integration techniques, limits and indeterminate forms, improper integrals, infinite series, polar coordinates, parametric equations, as well as differentiation and integration of trigonometric and hyperbolic functions. A TI 89 GRAPHING CALCULATOR IS REQUIRED. (60-0)

MTH 208W Elementary Statistics 3 Sem Hrs
Prerequisite: MTH 118 or MTH 119 or MTH 119A with a grade of "C" or better or two years of high school algebra. Studies statistical concepts including frequency distributions, measures of central tendency and dispersion, probability, confidence intervals, hypotheses testing, linear correlation and regression, chi-square, ANOVA. A SPECIFIC GRAPHING CALCULATOR IS REQUIRED. (45-0)

MTH 260 Discrete Mathematics 3 Sem Hrs
Prerequisite: MTH 161 with a grade of "C" or better. Introduces discrete mathematics topics for applied mathematics and computer science. Includes Boolean algebra, predicate logic, sets, relations, induction and recursion, counting theory, graphs and trees. (45-0)

MTH 261 Analytic Geometry and Calculus III 4 Sem Hrs
Prerequisite: MTH 162 with a grade of "C" or better. Includes solid analytical geometry, vectors, partial differentiation, multiple integration, line and surface integrals, Green's, Stokes', and Gauss' theorems. A CAS GRAPHING CALCULATOR IS REQUIRED. (60-0)

MTH 263 Introduction to Linear Algebra 3 Sem Hrs
Prerequisite: MTH 261 with a grade of "C" or better. Investigates matrices, determinants, linear systems, vector spaces, linear transformations, eigenvalues, and eigenvectors. (45-0)

MTH 264 Introduction to Ordinary Differential Equations 3 Sem Hrs
Prerequisite: MTH 261 with a grade of "C" or better. Studies the techniques for solving first and second-order differential equations and first-order systems of differential equations both linear and nonlinear, through qualitative, quantitative and numerical approaches. Includes Laplace transforms and uses applications in science and engineering throughout the course. (45-0)

MTH 290-299 Special Projects in Mathematics Sem Hr

Massage Therapy

MTP 290-299 Special Projects in Massage Therapy Sem Hr

MTP 301 Manual Techniques I 6 Sem Hrs
Prerequisites: Licensed Practical Nurse or Licensed Registered Nurse through the State of Michigan, or, Graduate of a fully accredited Physical Therapist Assistant Program in the State of Michigan. Out of state applicants must provide confirmation of above requirements. Provides an in-depth view of the history, theory, terminology, physiology, pathology, and basic techniques of both Western and Eastern medical models used during the stages of rehabilitation. Covers aspects of ethics, law, business, and marketing, and develops students use and integration of structural-based and energy-based body systems. Includes Swedish massage, structural-based massage, Myofascial release, trigger point therapy, traditional Chinese medicine, acupressure, shiatsu, reflexology, and other advanced techniques. (90-0)

Music

MUS 100 Elements of Music 3 Sem Hrs
Rudiments of music, including notation, clefs, keys, syllables, and rhythm. Elementary conducting technique. Planned to meet the basic musical needs of prospective elementary teachers. Also is a basic course in beginning theory for anyone interested in music. Recommended to be taken concurrently with MUS 131. (45-0)

MUS 111 Music Appreciation I 3 Sem Hrs
Provides fundamentals of listening to and understanding of instrumental music (concerto, small ensemble). Presents basic principles for discussion as they relate to a variety of examples from classical, folk, and pop styles. (45-0)

MUS 112 Music Appreciation II 3 Sem Hrs
Prerequisite: MUS 111 or permission of instructor. Continued study of instrumental music (concerto small ensemble). Promotes an understanding of and for vocal forms (Opera, art, song, large choral work, i.e., oratorios, masses). (45-0)

MUS 118 Jazz History: Origins to the Present 3 Sem Hrs
Assists students in developing an interest in and respect for Jazz as an original American art form. Traces Jazz history from its theoretical origins to the present. Focuses on the evolutionary development of the music and the artists who brought about Jazz. (45-0)

MUS 119W The History of Rock and Roll: From Its Origins to 1980 3 Sem Hrs
Develops an interest and respect for the origins and growth of Rock and Roll music in the United States and Europe through the focus on recordings and videos that documented its progress. (45-0)

MUS 120W World Music: Survey 3 Sem Hrs
Develops an interest and respect for music from different countries and cultures by tracing the development and structures of non-European music forms through a focus on recordings and artists that have documented these unique musical traditions. (45-0)

MUS 131 Piano I 2 Sem Hrs
Beginning class instruction leading to the ability to play melodies and accompanying chord patterns and rhythms. (15-15)

MUS 132 Piano II 2 Sem Hrs
Prerequisite: MUS 131 or permission of the instructor. Continuation of Piano I. (15-15)

MUS 135 Fundamentals of Guitar 2 Sem Hrs
Introduces basic written music notation, simple chords, strumming patterns, and right hand fingerstyle patterns. Performs a variety of traditional and popular songs. Enriches music skills for students and teachers. (30-0)

MUS 136 Contemporary Guitar Styles 2 Sem Hrs
Prerequisite: MUS 135 or permission of instructor. Student must provide own instrument. Utilizes rock, jazz, blues, and other songs to teach contemporary guitar styles. Uses tablature and chord charts extensively. Teaches scales and chords according to the needs of each style covered. Improvises over simple progressions in each of the above styles.(30-0)

MUS 137 Classical Guitar 2 Sem Hrs
Prerequisite: MUS 135 or permission of instructor. Nylon-string classical guitars are recommended. Introduces techniques and repertoire of the classical guitar and students will perform a variety of simple repertoire pieces from different historical style periods. Emphasizes solo and ensemble playing. Teaches rest stroke, free stroke, arpeggio technique, proper posture and positioning, reading music in 2 parts, and basic expressive interpretation. (30-0)

MUS 138 Music Voice Class 2 Sem Hrs
Emphasizes the vocal instrument and how it functions in singing. Practices techniques to improve the voice, rehearsing in both ensemble and solo settings, culminating in class performance at the end of the semester. Teaches vocal terminologies and explores a variety of musical styles. (30-0)

MUS 146 Chorale I 2 Sem Hrs
Provides an opportunity for ensemble singing in 2, 3, 4, or more parts. Develops repertoire, musicianship, and proper vocal techniques through reading choral music, extending vocal range, pitch matching, proper practice and performance techniques. Credit may be earned in MUS 146 or MUS 154 but not both. (30-0)

MUS 147 Chorale II 2 Sem Hrs
Prerequisites: MUS 146. Provides a continuing opportunity for ensemble singing in 2, 3, 4, or more parts. Develops repertoire, musicianship, and proper vocal techniques through reading choral music, extending vocal range, pitch matching, proper practice and performance techniques. Credit may be earned in MUS 147 or MUS 155 but not both. (30-0)

MUS 148 Chorale III 2 Sem Hrs
Prerequisites: MUS 147. Provides a continuing opportunity for ensemble singing in 2, 3, 4, or more parts. Develops repertoire, musicianship, and proper vocal techniques through reading choral music, extending vocal range, pitch matching, proper practice and performance techniques. Credit may be earned in MUS 158 or MUS 148 but not both. (30-0)

MUS 149 Chorale IV 2 Sem Hrs
Prerequisites: MUS 148. Provides a continuing opportunity for ensemble singing in 2, 3, 4, or more parts. Develops repertoire, musicianship, and proper vocal techniques through reading choral music, extending vocal range, pitch matching, proper practice and performance techniques. (30-0)

MUS 155 Choir II 2 Sem Hrs
Prerequisites: MUS 154 or Instructor permission. Provides a continuing opportunity for ensemble singing in 2, 3, 4, or more parts. Develops further repertoire, musicianship, and proper vocal techniques through reading choral music, extending vocal range, pitch matching, proper practice, and performance techniques. (30-0)

MUS 171 Applied Music Piano Minor--Freshman 1 Sem Hr
Prerequisite: Permission of music department. Private instruction/ lessons provided and a minimum number of hours of weekly practice is required. A jury examination will be held at the end of each semester.

MUS 172 Applied Music Piano Minor--Freshman 1 Sem Hr
Prerequisite: Permission of music department. Private instruction/ lessons provided and a minimum number of hours of weekly practice is required. A jury examination will be held at the end of each semester.

MUS 173 Applied Music Instrumental Minor--Freshman 1 Sem Hr
Prerequisite: Permission of music department. Private instruction/ lessons provided and a minimum number of hours of weekly practice is required. A jury examination will be held at the end of each semester.

MUS 174 Applied Music Instrumental Minor--Freshman 1 Sem Hr
Prerequisite: Permission of music department. Private instruction/ lessons provided and a minimum number of hours of weekly practice is required. A jury examination will be held at the end of each semester.

MUS 175 Applied Music Voice Minor--Freshman 1 Sem Hr
Prerequisite: Permission of music department. Develops the voice through repertoire, proper vocal techniques, warm-ups to extend vocal range and pitch matching, and works on proper practice and performance techniques. (15-0)

MUS 176 Applied Music Voice Minor--Freshman 1 Sem Hr
Prerequisite: Permission of music department. Private instruction/ lessons provided and a minimum number of hours of weekly practice is required. A jury examination will be held at the end of each semester.

MUS 181 Applied Music Piano Major--Freshman 2 Sem Hrs
Prerequisite: Permission of music department. Private instruction/ lessons provided and a minimum number of hours of weekly practice is required. A jury examination will be held at the end of each semester.

MUS 182 Applied Music Piano Major--Freshman 2 Sem Hrs
Prerequisite: Permission of music department. Private instruction/ lessons provided and a minimum number of hours of weekly practice is required. A jury examination will be held at the end of each semester.

MUS 183 Applied Music Instrumental Major--Freshman 2 Sem Hrs
Prerequisite: Permission of music department. Private instruction/ lessons provided and a minimum number of hours of weekly practice is required. A jury examination will be held at the end of each semester.

MUS 184 Applied Music Instrumental Major--Freshman 2 Sem Hrs
Prerequisite: Permission of music department. Private instruction/ lessons provided and a minimum number of hours of weekly practice is required. A jury examination will be held at the end of each semester.

MUS 185 Applied Music Voice Major--Freshman 2 Sem Hrs
Prerequisite: Permission of music department. Private instruction/ lessons provided and a minimum number of hours of weekly practice is required. A jury examination will be held at the end of each semester.

MUS 186 Applied Music Voice Major--Freshman 2 Sem Hrs
Prerequisite: Permission of music department. Private instruction/ lessons provided and a minimum number of hours of weekly practice is required. A jury examination will be held at the end of each semester.

MUS 190 Chamber Choir I 2 Sem Hrs
Prerequisite: Audition and instructor permission. Specializes in performing literature of various musical periods and genre that is appropriate for small chamber vocal ensembles. Emphasizes the further learning and development of music reading skills, performance practices, listening skills, knowledge of choral literature and healthy singing techniques. Credit may be earned in MUS190 or MUS164, but not both. (30-0)

MUS 191 Chamber Choir II 2 Sem Hrs
Prerequisite: MUS 190, Audition and instructor permission. Provides a continuing opportunity to perform literature of various musical periods and genre that are appropriate for small chamber vocal ensembles. Emphasizes the further learning and development of music reading skills, performance practices, listening skills, knowledge of choral literature and healthy singing techniques. Credit may be earned in MUS 191 or MUS165, but not both. (30-0)

MUS 192 Chamber Choir III 2 Sem Hrs
Prerequisite: MUS 191, Audition and instructor permission. Provides a continuing opportunity to perform literature of various musical periods and genre that are appropriate for small chamber vocal ensembles. Emphasizes the further learning and development of music reading skills, performance practices, listening skills, knowledge of choral literature and healthy singing techniques. (30-0)

MUS 193 Chamber Choir IV 2 Sem Hrs
Prerequisite: MUS 192, Audition and instructor permission. Provides a continuing opportunity to perform literature of various musical periods and genres that are appropriate for small chamber vocal ensembles. Emphasizes the further learning and development of music reading skills, performance practices, listening skills, knowledge of choral literature and healthy singing techniques. (30-0)

MUS 194 Jazz Singers I 2 Sem Hrs
Prerequisites: Audition and instructor permission. Specializes in performing literature of various musical styles related to Jazz, Pop, Blues, Rock, and other popular genres. Develops a knowledge base of choral literature and performance practices as related to Jazz and Pop choral styles. Credit may be earned in MUS 194 or MUS 156, but not both. (30-0)

MUS 195 Jazz Singers II 2 Sem Hrs
Prerequisite: MUS 194, Audition and instructor permission. Provides a continuing opportunity to perform literature of various musical styles related to Jazz, Pop, Blues, Rock, and other popular genres. Develops a knowledge base of choral literature and performance practices as related to Jazz and Pop choral styles. Credit may be earned in MUS 195 or MUS 157, but not both. (30-0)

MUS 196 Jazz Singers III 2 Sem Hrs
Prerequisite: MUS 195, Audition and instructor permission. Provides a continuing opportunity to perform literature of various musical styles related to Jazz, Pop, Blues, Rock, and other popular genres. Develops a knowledge base of choral literature and performance practices as related to Jazz and Pop choral styles. Credit may be earned in MUS 196 or MUS 256, but not both. (30-0)

MUS 197 Jazz Singers IV 2 Sem Hrs
Prerequisite: MUS 196, Audition and instructor permission. Provides a continuing opportunity to perform literature of various musical styles related to Jazz, Pop, Blues, Rock, and other popular genres. Develops a knowledge base of choral literature and performance practices as related to Jazz and Pop choral styles. (30-0)

MUS 271 Applied Music Piano Minor--Sophomore 1 Sem Hr
Prerequisite: Permission of music department. Private instruction/ lessons provided and a minimum number of hours of weekly practice is required. A jury examination will be held at the end of each semester.

MUS 272 Applied Music Piano Minor--Sophomore 1 Sem Hr
Prerequisite: Permission of music department. Private instruction/ lessons provided and a minimum number of hours of weekly practice is required. A jury examination will be held at the end of each semester.

MUS 273 Applied Music Instrumental Minor Sophomore 1 Sem Hr
Prerequisite: Permission of music department. Private instruction/ lessons provided and a minimum number of hours of weekly practice is required. A jury examination will be held at the end of each semester.

MUS 274 Applied Music Instrumental Minor--Sophomore 1 Sem Hr
Prerequisite: Permission of music department. Private instruction/ lessons provided and a minimum number of hours of weekly practice is required. A jury examination will be held at the end of each semester.

MUS 275 Applied Music Voice Minor--Sophomore 1 Sem Hr
Prerequisite: Permission of music department. Private instruction/ lessons provided and a minimum number of hours of weekly practice is required. A jury examination will be held at the end of each semester.

MUS 276 Applied Music Voice Minor--Sophomore 1 Sem Hr
Prerequisite: Permission of music department. Private instruction/ lessons provided and a minimum number of hours of weekly practice is required. A jury examination will be held at the end of each semester.

MUS 281 Applied Music Piano Major--Sophomore 2 Sem Hrs

MUS 282 Applied Music Piano Major--Sophomore 2 Sem Hrs
Prerequisite: Permission of music department. Private instruction/ lessons provided and a minimum number of hours of weekly practice is required. A jury examination will be held at the end of each semester.

MUS 283 Applied Music Instrumental Major--Sophomore 2 Sem Hrs
Prerequisite: Permission of music department. Private instruction/ lessons provided and a minimum number of hours of weekly practice is required. A jury examination will be held at the end of each semester.

MUS 284 Applied Music Instrumental Major--Sophomore 2 Sem Hrs
Prerequisite: Permission of music department. Private instruction/ lessons provided and a minimum number of hours of weekly practice is required. A jury examination will be held at the end of each semester.

MUS 285 Applied Music Voice Major--Sophomore 2 Sem Hrs
Prerequisite: Permission of music department. Private instruction/ lessons provided and a minimum number of hours of weekly practice is required. A jury examination will be held at the end of each semester.

MUS 286 Applied Music Voice Major--Sophomore 2 Sem Hrs
Prerequisite: Permission of music department. Private instruction/ lessons provided and a minimum number of hours of weekly practice is required. A jury examination will be held at the end of each semester.

MUS 290-299 Special Projects in Music Sem Hr

Nursing PT

NPT 101ALW Nursing Fundamentals Lab 1.5 Sem Hrs
Prerequisite: Current validation for ADN Program - Part-time Track. Concurrent enrollment in NPT 101A. Emphasizes critical thinking related to application of specific concepts and nursing process as the framework for nursing diagnosis and practice skills. Requires mastery of specified clinical skills/procedures in a simulated laboratory setting. This lab course has a concurrent theory course. For successful completion, a grade of at least a "C" must be earned in both this course and its concurrent theory course. A final grade of "F" will be assigned in both theory and lab if either course is not successfully completed. Credit can be earned in NPT 101AL or NUR 101AL but not both. (0-67)

NPT 101AW Nursing Fundamentals 3.5 Sem Hrs
Prerequisite: Current validation for ADN program - Part-time Track. Concurrent enrollment in NPT 101AL. Introduces the three AND roles of Provider of Care, Manager of Care, and Member within the Discipline of Nursing. Identifies the role of professional nursing practice based on principles of the biological and social sciences. Addresses ethical and legal responsibilities of nursing practice. This theory course has a concurrent lab course (NPT 101AL). For successful completion, a grade of at least a "C" must be earned in both this course and its concurrent lab course (lab grade will be same as theory grade). A final grade of "F" will be assigned in both theory and lab if either course is not successfully completed. Credit can be earned in NPT 101A or NUR 101A, but not both. (52-0)

NPT 101BLW Care of the Aging Adult Lab 2.0 Sem Hrs
Prerequisite: NPT 101A or NUR 101A and NPT 101AL or NUR 101AL with a minimum of "C" (2.0). Concurrent enrollment in NPT 101B. Applies the ADN roles of Provider of Care and Member within the Discipline of Nursing through application of the nursing process and adherence to legal and ethical aspects of nursing practice while providing nursing care for older adults in a variety of environments and health care settings. This lab course has a concurrent theory course. For successful completion, a grade of at least a "C" must be earned in both this course and its concurrent theory course (lab grade will be same as theory grade). A final grade of "F" will be assigned in both theory and lab if either course is not successfully completed. Credit can be earned in NPT 101BL or NUR 101BL, but not both. (0-92)

NPT 101BW Care of the Aging Adult 2.0 Sem Hrs
Prerequisite: NPT 101A or NUR 101A and NPT 101AL or NUR 101AL with a minimum grade of "C" (2.0). Concurrent enrollment in NUR 101BL. Introduces concepts of gerontological nursing. For successful completion, a grade of at least a "C" must be earned in both this course and its concurrent lab course (lab grade will be same as theory grade). A final grade of "F" will be assigned in both theory and lab if either course is not successfully completed. Credit can be earned in NPT 101B or NUR 101B, but not both. (30-0)

NPT 115LW Maternity Nursing Lab 1 Sem Hr
Prerequisite: NPT 101B or NUR 101B and NPT 101BL or NUR 101BL with minimum grade of "C" (2.0). Concurrent enrollment in NPT 115. Provides clinical opportunities to apply the ADN roles of Provider of Care and Member within the Discipline of Nursing in the Maternity Health Care setting and introduces the fundamental skills needed to function in the Manager of Care role. Requires a concurrent theory course (NPT 115). For successful completion, a grade of at least a "C" must be earned in this course and its concurrent theory course (lab grade will be same as theory grade). A final grade of "F" will be assigned in both theory and lab if either course is not successfully completed. Credit may be earned in NPT 115L or NUR 115L, but not both. (0-45)

NPT 115W Maternity Nursing 2 Sem Hrs
Prerequisite: NPT 101B or NUR 101B and NPT 101BL or NUR 101BL with minimum grade of "C" (2.0). Concurrent enrollment in NPT 115L, NPT 116, and NPT 116L. Concurrent enrollment in NPT 115LW. Presents nursing care of the childbearing family. Focus on distinguishing normal from abnormal conditions and interventions to promote a safe, satisfying childbirth experience. Requires a concurrent lab course (NPT 115L). For successful completion, a grade of at least a "C" must be earned in this course and its concurrent lab course (lab grade will be same as theory grade). A final grade of "F" will be assigned in both theory and lab if either course is not successfully completed. Credit can be earned in NPT 115 or NUR 115, but not both. (30-0)

NPT 116LW Pediatric Nursing lab 1 Sem Hr
Prerequisite: NPT 101B or NUR 101B and NPT 101BL or NUR 101BL with a minimum grade of "C" (2.0). Concurrent enrollment in NPT 116. Provides clinical opportunities to apply the ADN roles of Provider of Care and Member within the Discipline of Nursing in the Pediatric Health Care setting and introduces the fundamental skills needed to function in the Manager of Care role. Requires a concurrent theory course (NPT 116). For successful completion, a grade of at least a "C" must be earned in this course and its concurrent theory course (lab grade will be same as theory grade). A final grade of "F" will be assigned in both theory and lab if either course is not successfully completed. Credit can be earned in NPT 116L or NUR 116L, but not both. (0-45)

NPT 116W Pediatric Nursing 2 Sem Hrs
Prerequisite: NPT 101B or NUR 101B and NPT 101BL or NUR 101BL with minimum grade of "C" (2.0). Concurrent enrollment in NPT 116L. Presents nursing care of the child and family experiencing illness/ hospitalization. Emphasis on principles of growth and development, and bio-psycho-social needs of clients from infancy through adolescence. Requires a concurrent lab course (NPT 116L). For successful completion, a grade of at least a "C" must be earned in this course and its concurrent lab course (lab grade will be same as theory grade). A final grade of "F" will be assigned in both theory and lab if either course is not successfully completed. Credit can be earned in NPT 116 or NUR 116, but not both. (30-0)

NPT 119LW Mental Health Nursing Lab 1 Sem Hr
Prerequisite: NPT 101B or NUR 101B and NPT 101BL or NUR 101BL with a minimum grade of "C" (2.0). Concurrent enrollment in NPT 119. Provides clinical opportunities to apply the ADN roles of Provider of Care and Member within the Discipline of Nursing in selected health care/mental health agencies and introduces the fundamental skills needed to function in the Manager of Care role. Requires a concurrent theory course (NPT 119). For successful completion, a grade of at least a "C" must be earned in this course and its concurrent theory course (lab grade will be same as theory grade). A final grade of "F" will be assigned in both theory and lab if either course is not successfully completed. Credit may be earned in NPT 119L or NUR 119L, but not both. (0-45)

NPT 119W Mental Health Nursing 2 Sem Hrs
Prerequisite: NPT 101B or NUR 101B and NPT 101BL or NUR 101BL with a minimum grade of "C" (2.0). Concurrent enrollment in NPT 119L. Presents nursing care of clients and their families experiencing emotional distress/mental illness. Requires a concurrent lab course (NPT 119L). For successful completion, a grade of at least a "C" must be earned in this course and its concurrent lab course (lab grade will be same as theory grade). A final grade of "F" will be assigned in both theory and lab if either course is not successfully completed. Credit may be earned in NPT 119 or NUR 119, but not both. (30-0)

NPT 240ALW Basic Nursing Care of the Adult Client Lab A 2.9 Sem Hrs

Prerequisite: NPT 115, NPT 116, and NPT 119 or NUR 115, NUR 116, and NUR 119 and NPT 115L, NPT 116L, and NPT 119L or NUR 115L, NUR 116L, and NUR 119L with a minimum grade of a "C" (2.0). Concurrent enrollment in NPT 240. Applies the nursing process in caring for the adult patient and requires clinical application of concepts in an acute care setting. Provides opportunities to apply the ADN roles of Provider of Care, Manager of Care, and continues to build on the role as a Member within the Discipline of Nursing. This lab course has a concurrent theory course. For successful completion, a grade of at least a "C" must be earned in both this course and the concurrent theory course (lab grade will be same as theory course). A final grade of "F" will be assigned in both theory and lab if either course is not successfully completed. Credit may be earned in NPT 240L or NUR 240L, but not both. (0-130)

NPT 240AW Basic Nursing Care of the Adult Client A 3.1 Sem Hrs

Prerequisite: NPT 115, NPT 116, and NPT 119 or NUR 115, NUR116, and NUR 119 and NPT 115L, NPT 116L, and NPT 119L or NUR 115L, NUR116L, and NUR 119L with a minimum grade of a "C" (2.0). Concurrent enrollment in NPT 240L. Presents health care problems related to alterations in hematology, cardiopulmonary, endocrine, musculoskeletal, gastrointestinal , renal, reproductive, perioperative, and neuro function with emphasis on critical thinking in basic to complex nursing care. For successful completion, a grade of at least a "C" must be earned in both this course and its concurrent lab course (lab grade will be same as theory grade). A final grade of "F" will be assigned in both theory and lab if either course is not successfully completed. Credit may be earned in NPT 240 or NUR 240, but not both. (46.5-0)

NPT 240BLW Basic Nursing Care of the Adult Client B 1.4 Sem Hrs

Prerequisite: NPT 115, NPT 116, and NPT 119 or NUR 115, NUR 116, and NUR 119 and NPT 115L, NPT 116L, and NPT 119L or NUR 115L, NUR 116L, and NUR 119L with a minimum grade of "C" (2.0) Concurrent enrollment in NPT 240 B. Applies the nursing process in caring for the adult patient and requires clinical application of concepts in an acute care setting. Provides opportunities to apply the ADN roles of Provider of Care, Manager of Care, and continues to build on the role as a Member within the Discipline of Nursing. This lab course has a concurrent theory course. For successful completion, a grade of at least a "C" must be earned in both this course and the concurrent theory course (lab grade will be same as theory grade). A final grade of "F" will be assigned in both theory and lab if either course is not successfully completed. Credit may be earne din NPT 240L or NUR 240L, but not both. (0-65)

NPT 240BW Basic Nursing Care of the Adult Client B 1.6 Sem Hrs

Prerequisite: NPT 115, NPT 116, and NPT 119 or NUR 115, NUR116, and NUR 119 and NPT 115L, NPT 116L, and NPT 119L or NUR 115L, NUR116L, and NUR 119L with a minimum grade of a "C" (2.0). Concurrent enrollment in NPT 240L. Presents health care problems related to alterations in hematology, cardiopulmonary, endocrine, musculoskeletal, gastrointestinal , renal, reproductive, perioperative, and neuro function with emphasis on critical thinking in basic to complex nursing care. For successful completion, a grade of at least a "C" must be earned in both this course and its concurrent lab course (lab grade will be same as theory grade). A final grade of "F" will be assigned in both theory and lab if either course is not successfully completed. Credit may be earned in NPT 240 or NUR 240, but not both. (23.5-0)

NPT 240LW Basic Nursing Care of the Adult Client Lab 4.3 Sem Hrs

Prerequisite: NPT 115, NPT 116, and NPT 119 or NUR 115, NUR 116, and NUR 119 and NPT 115L, NPT 116L, and NPT 119L or NUR 115L, NUR 116L, and NUR 119L with a minimum grade of a "C" (2.0). Concurrent enrollment in NPT 240. Applies the nursing process in caring for the adult patient and requires clinical application of concepts in an acute care setting. Provides opportunities to apply the ADN roles of Provider of Care, Manager of Care, and continues to build on the role as a Member within the Discipline of Nursing. This lab course has a concurrent theory course. For successful completion, a grade of at least a "C" must be earned in both this course and the concurrent theory course (lab grade will be same as theory course). A final grade of "F" will be assigned in both theory and lab if either course is not successfully completed. Credit may be earned in NPT 240L or NUR 240L, but not both. (0-195)

NPT 240W Basic Nursing Care of the Adult Client 4.7 Sem Hrs

Prerequisite: NPT 115, NPT 116, and NPT 119 or NUR 115, NUR116, and NUR 119 and NPT 115L, NPT 116L, and NPT 119L or NUR 115L, NUR116L, and NUR 119L with a minimum grade of a "C" (2.0). Concurrent enrollment in NPT 240L. Presents health care problems related to alterations in hematology, cardiopulmonary, endocrine, musculoskeletal, gastrointestinal , renal, reproductive, perioperative, and neuro function with emphasis on critical thinking in basic to complex nursing care. For successful completion, a grade of at least a "C" must be earned in both this course and its concurrent lab course (lab grade will be same as theory grade). A final grade of "F" will be assigned in both theory and lab if either course is not successfully completed. Credit may be earned in NPT 240 or NUR 240, but not both. (70-0)

NPT 250AW Nursing Care and Management Throughout the Health Continuum A 3 Sem Hrs

Prerequisite: NPT 240 or NUR 240 or NT 219 and NPT 240L or NUR 240L or NT 219L with minimum grade of "C" (2.0). Concurrent enrollment in NPT 250L. This course will provide opportunities to enhance nursing practice skills through managing nursing care of a group of hospitalized clients having acute cardiovascular, respiratory, renal, and multisystem dysfunction, as well as clients facing trauma, cancer, immunologic dysfunction, shock, and hemodynamic instability. Requires a concurrent lab course (NPT 250L). For successful completion, a grade of at least a "C" must be earned in this course and its concurrent lab course (lab grade will be same as theory grade). A final grade of "F" will be assigned in both theory and lab if either course is not successfully completed. Credit may be earned in NPT 250 or NUR 250, but not both. (45-0)

NPT 250BW Nursing Care and Management Throughout the Health Continuum B 1 Sem Hr

Prerequisite: NPT 240 or NUR 240 or NT 219 and NPT 240L or NUR 240L or NT 219L with minimum grade of "C" (2.0). Concurrent enrollment in NPT 250L. This course will provide opportunities to enhance nursing practice skills through managing nursing care of a group of hospitalized clients having acute cardiovascular, respiratory, renal, and multisystem dysfunction, as well as clients facing trauma, cancer, immunologic dysfunction, shock, and hemodynamic instability. Requires a concurrent lab course (NPT 250L). For successful completion, a grade of at least a "C" must be earned in this course and its concurrent lab course (lab grade will be same as theory grade). A final grade of "F" will be assigned in both theory and lab if either course is not successfully completed. Credit may be earned in NPT 250 or NUR 250, but not both. (15-0)

NPT 250LW Nursing Care and Management Throughout the Health Continuum Lab 5 Sem Hrs

Prerequisite: NPT 240, NUR 240, or NT 219 and NPT 240L, NUR 240L or NT 219L with a minimum grade of "C" (2.0). Concurrent enrollment in NPT 250. This course will provide an opportunity to enhance nursing practice skills through managing nursing care of a group of hospitalized clients. Emphasizes concepts, principles, and skills of the three ADN roles of Provider of Care, Manager of Care, and Member within the Discipline of Nursing necessary for entry level nursing practice. Requires a concurrent theory course (NPT 250). For successful completion, a grade of at least a "C" must be earned in both this course and its concurrent theory course (lab grade will be same as theory grade). A final grade of "F" will be assigned in both theory and lab if either course is not successfully completed. Credit may be earned in NPT 250L or NUR 250L, but not both. (0-225)

NPT 250W Nursing Care and Management Throughout the Health Continuum 4 Sem Hrs

Prerequisite: NPT 240 or NUR 240 or NT 219 and NPT 240L or NUR 240L or NT 219L with minimum grade of "C" (2.0). Concurrent enrollment in NPT 250L. This course will provide opportunities to enhance nursing practice skills through managing nursing care of a group of hospitalized clients having acute cardiovascular, respiratory, renal, and multisystem dysfunction, as well as clients facing trauma, cancer, immunologic dysfunction, shock, and hemodynamic instability. Requires a concurrent lab course (NPT 250L). For successful completion, a grade of at least a "C" must be earned in this course and its concurrent lab course (lab grade will be same as theory grade). A final grade of "F" will be assigned in both theory and lab if either course is not successfully completed. Credit may be earned in NPT 250 or NUR 250, but not both. (60-0)

NPT 290-299 Special Projects in Nursing RN Part Time

Nursing Transition

NT 160LW Transitional Skills and Concepts Lab 1.0 Sem Hr

Prerequisite: Completion of NT 161 and NT 162 with a minimum grade of "C" (2.0). Concurrent enrollment in NT 160. Provides opportunities to practice specific nursing procedures in a simulated and clinical laboratory setting. Requires demonstration of skill competencies and documentation for successful course completion. This lab course has a concurrent theory course. For successful completion, a grade of at least "C" must be earned in this course and the concurrent theory course (lab grade will be same as theory grade). A final grade of "E" will be assigned in both theory and lab if either course is not successfully completed. (0-45)

NT 160W Transitional Skills and Concepts 1.0 Sem Hr

Prerequisite: Completion of NT 161 and NT 162 with a minimum grade of "C" (2.0) . Concurrent enrollment in NT 160L. Focuses on basic nursing skills/procedures and related communication necessary for function in the ADN Provider of Care role. This theory course has a concurrent lab course. For successful completion, a grade of at least a "C" must be earned in this course and its concurrent lab course (lab grade will be same as theory grade). A final grade of "E" will be assigned in both theory and lab if either course is not successfully completed. (15-0)

NT 161W Transition - Basic Principles of Adult Care 2 Sem Hrs

Prerequisite: LPN or Paramedic Licensure, 1 year full time equivalent work experience and validation for Transition program. (LPN option: no work experience required if student has maintained a GPA of 3.0 or greater throughout the ADN prerequisite core courses and PNE clinical courses, and meets all other prerequisite requirements.) Solidifies knowledge of the Provider of Care role related to aseptic technique, nutritional requirements, medication administration, fluid and electrolyte regulation, and acid-base balance. (30-0)

NT 162W Role and Function of the RN 2 Sem Hrs

Prerequisite: LPN or Paramedic Licensure, 1 year full time equivalent work experience and validation for Transition program. (LPN option: no work experience required if student has maintained a GPA of 3.0 or greater throughout the ADN prerequisite core courses and PNE clinical courses, and meets all other prerequisite requirements.) Introduces the three roles of the ADN: Provider of Care, Manager of Care, and Member within the Discipline of Nursing. Discusses the history of nursing, nursing theorists, and social policy. Emphasizes communication, ethical and legal implications for nursing, education preparation for various nursing roles, image of nursing, political action, theories and models of practice, teaching/learning principles, concepts of ethnic, and cultural diversity. (30-0)

NT 163LW Advanced principles of Adult Care for the LPN/Licensed Paramedic Lab 3 Sem Hrs

Prerequisite: NT 161 and NT 162 with minimum grade of "C" (2.0) for both LPNs and Paramedics; NT 160 and NT 160L for Paramedics with minimum grade of "C" (2.0). Concurrent enrollment in NT 163. Applies the nursing process in caring for the adult patient and requires clinical application of concepts in an acute care setting. Provides opportunities to apply the ADN roles of Provider of Care, Manager of Care, and continues to build on role functions as a Member within the Discipline of Nursing. This lab course has a concurrent theory course. For successful completion, a grade of at least a "C" must be earned in both this course and its concurrent theory course (lab grade will be same as theory grade). A final grade of "F" will be assigned in both theory and lab if either course is not successfully completed. (0-135)

NT 163W Advanced Principles of Adult Care for the LPN/Licensed Paramedic 3 Sem Hrs

Prerequisite: NT 161 and NT 162 with minimum grade of "C" (2.0). Concurrent enrollment in NT 163L. Presents health care problems related to alterations in hematology, cardiopulmonary, endocrine, reproductive, perioperative, musculoskeletal, gastrointestinal , renal, and neuro function with emphasis on critical thinking in basic to complex nursing care. For successful completion, a grade of at least a "C" must be earned in both this course and its concurrent lab course (lab grade will be same as theory grade). A final grade of "F" will be assigned in both theory and lab if either course is not successfully completed. (45-0)

NT 215LW Transition-Maternity Nursing Lab 1 Sem Hr

Prerequisite: NT 163 and NT 163L with a minimum grade of "C" (2.0). Concurrent enrollment in NT 215. Provides clinical opportunities to apply the ADN roles of Provider of Care and Member within the Discipline of Nursing in the maternity health care setting and introduces the fundamental skills needed to function in the Manager of Care role. Requires a concurrent theory course (NT 215). For successful completion, a grade of at least a "C" must be earned in this course and its concurrent theory course. A final grade of "F" will be assigned in both theory and lab if either course is not successfully completed. (0-45

NT 215W Transition-Maternity Nursing 2.0 Sem Hrs

Prerequisite: NT 163 and NT 163L with a minimum grade of "C" (2.0). Concurrent enrollment in NT 215L. Presents nursing care of the childbearing family. Focuses on distinguishing normal from abnormal conditions and interventions to promote a safe, satisfying childbirth experience. Requires a concurrent lab course (NT 215L). For successful completion, a grade of at least a "C" must be earned in this course and its concurrent lab course (lab grade will be same as theory grade). A final grade of "F" will be assigned in both theory and lab if either course is not successfully completed. (30-0)

NT 216LW Transition-Pediatric Nursing Lab 1 Sem Hr
Prerequisite: NT 163 and NT 163L with a minimum grade of "C" (2.0). Concurrent enrollment in NT 216. Provides clinical opportunities to apply the AND role of Provider of Care and Member within the Discipline of Nursing in the Pediatric Health Care setting and introduces the fundamental skills needed to function in the Manager of Care role. Requires a concurrent theory course (NT 216). For successful completion a grade of at least a "C" must be earned in this course and its concurrent theory course (lab grade will be same as theory grade). A final grade of "F" will be assigned in both theory and lab if either course is not successfully completed. (0-45)

NT 216W Transition-Pediatric Nursing 2 Sem Hrs
Prerequisite: NT 163 and NT 163L with a minimum grade of "C" (2.0). Concurrent enrollment in NT 216L. Presents nursing care of the child and family experiencing illness/hospitalization. Emphasizes principles of growth and development, and bio-psycho-social needs of clients from infancy through adolescence. Requires a concurrent lab course (NT 216L). A grade of at least a "C" must be earned in this course and its concurrent lab course (lab grade will be same as theory grade). A final grade of "F" will be assigned in both theory and lab if either course is not successfully completed. (30-0)

NT 219LW Transition-Mental Health Nursing Lab 1 Sem Hr
Prerequisite: NT 163 and NT 163L with a minimum grade of "C" (2.0) . Concurrent enrollment in NT 219. Provides clinical opportunity to apply the AND roles of Provider of Care and Member Within the Discipline of Nursing in selected health care/mental health agencies and introduces the fundamental skills needed to function in the manager of Care role. Requires a concurrent theory course (NT 219). For successful completion, a grade of at least a "C" must be earned in this course and its concurrent theory course (lab grade will be same a theory course). A final grade of "F" will be assigned in both theory and lab if either course is not successfully completed. (0-45)

NT 219W Transition-Mental Health Nursing 2 Sem Hrs
Prerequisite: NT 163 and NT 163L with a minimum grade of "C" (2.0). Concurrent enrollment in NT 219L. Presents nursing care of clients and their families experiencing emotional distress/mental illness. Requires a concurrent lab course (NT 219L). For successful completion, a grade of at least a "C" must be earned in this course and its concurrent lab course (lab grade will be same as theory grade). A final grade of "F" will be assigned in both theory and lab if either course is not successfully completed. (30-0)

NT 290-299 Special Projects in Nursing Transition

Nursing RN FT

NUR 100A Introduction to Nursing Careers 1 Sem Hr
Provides strategies and skills to enhance success within Delta's nursing program. Emphasizes critical thinking, time management, and learning styles. Includes overview of nursing's past and present, and challenges for the future. Credit may be earned in NUR 100 or NUR 100A, but not both. (15-0)

NUR 101ALW Nursing Fundamentals Lab 1.5 Sem Hrs
Prerequisite: Current validation for ADN program - Full-time Track. Concurrent Enrollment in NUR 101A. Emphasizes critical thinking related to application of specific concepts and nursing process as the framework for nursing diagnosis and practice skills. Requires mastery of specified clinical skills/procedures in a simulated laboratory setting. This lab course has a concurrent theory course. For successful completion, a grade of at least "C" must be earned in both this course and its concurrent theory course. A final grade of "F" will be assigned in both theory and lab if either course is not successfully completed. Credit may be earned in NUR 101AL or NPT 101AL but not both. (0-67)

NUR 101AW Nursing Fundamentals 3.5 Sem Hrs
Prerequisite: Current validation for ADN program - Full-time Track. Concurrent enrollment in NUR 101AL. Introduces the three ADN roles of Provider of Care, Manager of Care, and Member within the Discipline of Nursing. Identifies the role of professional nursing practice based on principles of the biological and social sciences. Addresses ethical and legal responsibilities of nursing practice. This theory course has a concurrent lab course. For successful completion, a grade of at least a "C" must be earned in this course and its concurrent lab course (lab grade will be same as theory grade). A final grade of "F" will be assigned in both theory and lab if the lab course is not successfully completed. Credit may be earned in NUR 101A or NPT 101A but not both. (52-0)

NUR 101BLW Care of the Aging Adult Lab 2.0 Sem Hrs
Prerequisite: NUR 101A or NPT 101A with a minimum of "C" (2.0) and NUR 101AL or NPT 101AL. Concurrent enrollment in NUR 101B. Applies the ADN roles of Provider of Care and Member within the Discipline of Nursing through application of the nursing process and adherence to legal and ethical aspects of nursing practice while providing nursing care of older adults in a variety of environments and health care settings. This lab course has a concurrent theory course. For successful completion, a grade of least a "C" must be earned in both this course and its concurrent theory course (lab grade will be same as theory grade). A final grade of "F" will be assigned in both theory and lab if either course is not successfully completed. Credit can be earned in NUR 101BL or NPT 101BL, but not both. (0-92)

NUR 101BW Care of the Aging Adult 2.0 Sem Hrs
Prerequisite: NUR 101 or NPT 101A and NUR 101AL or NPT 101AL with a minimum grade of "C" (2.0) . Concurrent enrollment in NUR 101BL. Introduces concepts of gerontological nursing. This theory course has a concurrent lab course. For successful completion, a grade of at least a "C" must be earned in both this course and its concurrent lab course (lab grade will be same as theory grade). A final grade of "F" will be assigned in both theory and lab if either course is not successfully completed. Credit can be earned in NUR 101B or NPT 101B, but not both. (30-0)

NUR 115LW Maternity Nursing Lab 1 Sem Hr
Prerequisite: NUR 101B or NPT 101B and NUR 101BL or NPT 101BL with a minimum grade of "C" (2.0). Concurrent enrollment in NUR 115. Provides clinical opportunities to apply the ADN roles of Provider of Care and Member within the Discipline of Nursing in the Maternity Health Care setting and introduces the fundamental skills needed to function in the Manager of Care role. Requires a concurrent theory course (NUR 115). For successful completion, a grade of at least a "C" must be earned in this course and its concurrent theory course (lab grade will be the same as theory grade). A final grade of "F" will be assigned in both theory and lab if either course is not successfully completed. Credit can be earned in NUR 115L or NPT 115L, but not both. (0-45)

NUR 115W Maternity Nursing 2 Sem Hrs
Prerequisite: NUR 101B or NPT 101B and NUR 101BL or NPT 101BL with minimum grade of "C" (2.0). Concurrent enrollment in NUR 115L. Presents nursing care of the childbearing family. Focuses on distinguishing normal from abnormal conditions and interventions to promote a safe, satisfying childbirth experience. Requires a concurrent lab course (NUR 115L). For successful completion, a grade of at least a "C" must be earned in this course and its concurrent lab course (lab grade will be same as theory grade). A final grade of "F" will be assigned in both theory and lab if either course is not successfully completed. Credit can be earned in NUR 115 or NPT 115, but not both. (30-0)

NUR 116LW Pediatric Nursing Lab 1 Sem Hr
Prerequisite: NUR 101B or NPT 101B and NUR 101BL or NPT 101BL with minimum grade of "C" (2.0) . Provides clinical opportunities to apply the ADN roles of Provider of Care and Member within the Discipline of Nursing in the Pediatric Health Care setting and introduces the fundamental skills needed to function in the Manager of Care role. Requires a concurrent theory course (NUR 116). For successful completion, a grade of at least a "C" must be earned in this course and its concurrent theory course. A final grade of "F" will be assigned in both theory and lab if either component is not successfully completed. Credit can be earned in NUR 116L or NPT 116L, but not both. (0-45)

NUR 116W Pediatric Nursing 2 Sem Hrs
Prerequisite: NUR 101B or NPT 101B and NUR 101BL or NPT 101BL with minimum grade of "C" (2.0) . Concurrent enrollment in NUR 116LW. Presents nursing care of the child and family experiencing illness/ hospitalization. Emphasis on principles of growth and development, and biopsychosocial needs of clients from infancy through adolescence. Requires a concurrent lab course (NUR 116L). For successful completion, a grade of at least a "C" must be earned in both this course and its concurrent lab course (lab grade will be same as theory grade). A final grade of "F" will be assigned in both theory and lab if either course is not successfully completed. Credit can be earned in NUR 116 or NPT 116, but not both. (30-0)

NUR 119LW Mental Health Nursing Lab 1 Sem Hr
Prerequisite: NUR 101B or NPT 101B and NUR 101BL or NPT 101BL with a minimum grade of "C" (2.0). Concurrent enrollment in NUR 119W. Provides clinical opportunities to apply the ADN roles of Provider of Care and Member within the Discipline of Nursing in selected health care/mental health agencies and introduces the fundamental skills needed to function in the Manager of Care role. Requires a concurrent theory course (NUR 119). For successful completion, a grade of at least a "C" must be earned in this course and its concurrent theory course (lab grade will be same as theory grade). A final grade of "F" will be assigned in both theory and lab if either course is not successfully completed. Credit may be earned in NUR 119L or NPT 119L, but not both. (0-45).

NUR 119W Mental Health Nursing 2 Sem Hrs
Prerequisite: NUR 101B or NPT 101B and NUR 101BL or NPT 101BL with minimum grade of "C" (2.0). Concurrent enrollment in NUR 119L. Presents nursing care of clients and their families experiencing emotional distress/mental illness. Requires a concurrent lab course (NUR 119L). For successful completion, a grade of at least a "C" must be earned in this course and its concurrent lab course (lab grade will same as theory grade). A final grade of "F" will be assigned in both theory and lab if either course is not successfully completed. Credit may be earned in NUR 119 or NPT 119, but not both. (30-0)

NUR 240LW Basic Nursing Care of the Adult Client Lab 4.3 Sem Hrs
Pre-requisite: NUR 115, NUR 116, and NUR 119 or NPT 115, NPT 116, and NPT 119 and NUR 115L, NUR 116L, and NUR 119L or NPT 115L, NPT 116L, and NPT 119L with minimum grade of a "C" (2.0) . Applies the nursing process in caring for the adult patient and requires clinical application of concepts in an acute care setting. Provides opportunities to apply the ADN roles of Provider of Care, Manager of Care, and continues to build on role function as a Member within the Discipline of Nursing. This lab course has a concurrent theory course (NUR 240). For successful completion, a grade of at least a "C" must be earned in both this course and its concurrent theory course (lab grade will be same as theory grade). A final grade of "F" will be assigned in both theory and lab if either course is not successfully completed. Credit may be earned in NUR 240L or NPT 240L, but not both. (0-195)

NUR 240W Basic Nursing Care of the Adult Client 4.7 Sem Hrs
Prerequisite: NUR 115, NUR 116, NUR 119 or NPT 115, NPT 116, NPT 119 and NUR 115L, NUR 116L, NUR 119L or NPT 115L, NPT 116L, NPT119L with minimum grade of a "C" (2.0). Concurrent enrollment in NUR 240L. Presents health care problems related to alterations in hematology, cardiopulmonary, endocrine, musculoskeletal gastrointestinal , renal, reproductive, perioperative, and neuro function with emphasis on critical thinking in basic to complex nursing care. For successful completion, a grade of at least a "C" must be earned in both this course and its concurrent lab course (lab grade will be same as theory grade). A final grade of "F" will be assigned in both theory and lab if either course is not successfully completed. Credit may be earned in NUR 240 or NPT 240, but not both. (70-0)

NUR 250LW Nursing Care and Management Throughout the Health Continuum Lab 5 Sem Hrs
Prerequisite: NUR 240 or NPT 240 or NT 219 and NUR 240L or NPT 240L, or NT 219L with minimum grade of "C" (2.0). Concurrent enrollment in NUR 250. Provides an opportunity to enhance nursing practice skills through managing nursing care of a group of hospitalized clients. Emphasizes concepts, principles, and skills of the three ADN roles of Provider of Care, Manager of Care, and Member within the Discipline of Nursing necessary for entry level nursing practice. Requires a concurrent theory course (NUR 250). For successful completion, a grade of at least a "C" must be earned in this course and its concurrent theory course (lab grade will be same as theory grade). A final grade of "F" will be assigned in both theory and lab if either course is not successfully completed. Credit may be earned in NUR 250L or NPT 250L, but not both. (0-225)

NUR 250W Nursing Care and Management Throughout the Health Continuum 4 Sem Hrs
Prerequisite: NUR 240 or NPT 240 or NT 219 and NUR 240L, NPT 240L, or NT 219L with minimum grade of "C" (2.0). Concurrent enrollment in NUR 250L. Provides opportunities to enhance nursing practice skills through managing nursing care of a group of hospitalized clients having acute cardiovascular, respiratory, renal, and multi-system dysfunction, as well as clients facing trauma, cancer, immunologic dysfunction, shock, and hemodynamic instability. Requires a concurrent lab course (NUR 250L). For successful completion, a grade of at least a "C" must be earned in this course and its concurrent lab course (lab grade will be same as theory grade). A final grade of "F" will be assigned in both theory and lab if either course is not successfully completed. Credit can be earned in NUR 250 or NPT 250, but not both. (60-0)

NUR 290-299 Special Projects in Nursing Sem Hr

Office Administration & Technology

OAT 105W Time Management 1 Sem Hr
Prerequisite: WRITING LEVEL 3 and OAT 170 Keyboarding or equivalent touch typing and computer background. Explores the principles of effective time and life management. Develops skills in time management using a traditional paper planner as well as an electronic calendar. (15-0)

OAT 116 Introduction to the Medical Office 2 Sem Hrs
Prerequisite: MATH LEVEL 2. Introduces students to basic medical office processes. Includes medical recordkeeping, scheduling, and patient registration. Also introduces basic accounting procedures including journalizing, posting, banking, and payroll. (30-0)

OAT 150 Business English 3 Sem Hrs
Prerequisite: READING LEVEL 2 and WRITING LEVEL 2. Emphasizes the development of sound English usage skills. Emphasizes language skills that will enable students to perform effectively and efficiently in an information-based work environment. (45-0)

OAT 151 Business Communication I 3 Sem Hrs
Prerequisite: READING LEVEL 4 and WRITING LEVEL 4; or C or higher in OAT 150; and OAT 170 Keyboarding or equivalent touch typing and computer background.. Includes principles and composition of effective basic business letters and memos as well as accuracy in grammar, spelling, punctuation, sentence structure, and format. (45-0)

OAT 152 Business Communication II 3 Sem Hrs
Prerequisite: OAT 151 with a "C" (2.0) grade minimum. Studies effective verbal and nonverbal communication in business. Emphasizes audience reaction, logical organization, tone, clarity, and accuracy. Involves career information, the research process, and reporting. (45-0)

OAT 153 Police Report Writing 1 Sem Hr
Concurrent enrollment in CJ 101, LWT 175, and LW 280. Requires a grade of "C" (2.0) or better to complete the Basic Police Training Academy. Develops and enhances writing skills necessary to law enforcement including preparation of police reports, incident reports, summaries of witness and complaint interviews, and criminal case summaries. Credit may be earned in OSE 153 or OAT 153 but not in both. (15-0)

OAT 155W Editing 2 Sem Hrs
Prerequisite: OAT 151 and OAT 171 both with a grade of "C" or better. Develops proofreading and editing skills. Reviews business writing principles and the use of revision symbols. Emphasizes revising both format and content of business documents. Requires a service learning experience. (30-0)

OAT 157 File Management 2 Sem Hrs
Prerequisite: OAT 170 Keyboarding with a "C" (2.0) grade minimum or equivalent touch typing and computer background. Covers principles and practices of effective records management for manual and automated records systems using alphabetic, numeric, chronologic, and subject methods. Introduces database concepts needed for understanding automated records storage and retrieval methods including adding, modifying, sorting, designing, searching and printing. Credit may be earned in OSE 157 or OAT 157 but not in both. (30-0)

OAT 166W Office Internship 3 Sem Hrs
(Prerequisite: Minimum 25 credits completed in Administrative Assistant program. Student must apply for placement in OAT 166 in semester previous to anticipated placement.) Integrates and reinforces the student's academic studies with related work of at least 180 hours at a designated work site. Seminars will be held on campus as a forum of discussion for career enhancement. (15-180)

OAT 170 Keyboarding 2 Sem Hrs
Develops the touch system of the alphabetic, numeric, symbol keys and the 10-key pad of the microcomputer keyboard. Credit may be earned in OSE 170 or OAT 170 but not in both. A waiver test is available for those who are proficient in typing. (30-0)

OAT 171 Document Processing: Beginning 3 Sem Hrs
Prerequisite: OAT 170 Keyboarding with "B" grade or better. Uses MS Word to introduce the formatting of business correspondence, reports, and tables. Develops speed and accuracy on the computer keyboard. (45-0)

OAT 172 Document Processing: Intermediate 3 Sem Hrs
Prerequisite: OAT 171 with a "C" (2.0) grade minimum. Studies the efficient use of MS Word for the production of complex business correspondence, reports, and tables. Introduces the use of appropriate punctuation in business documents. Increases speed and accuracy on the computer keyboard. (45-0)

OAT 175 Electronic Calculation 2 Sem Hrs
Prerequisite: MATH LEVEL 2. Develops the touch system of data entry for addition and incorporates the functions of addition, subtraction, multiplication, and division for various business applications using electronic calculating tools. Credit may be earned in OAT 175 or OSE 175 but not in both. (30-0)

OAT 243 Diagnostic Coding 3 Sem Hrs
Prerequisite: HSC 105 and BIO 101W (or BIO 101 equivalent: BIO 140, or BIO 152 and 153, or BIO 171 and 172, or BIO 240 and 241). Presents diagnosis as it relates to physicians' health insurance claims processing; includes decision making necessary for accurate diagnosis code choices, abstracting diagnosis from health care documentation, and using the current ICD diagnostic coding system. Course may be taken concurrently with OAT 244 Procedure Coding. (45-0)

OAT 244 Procedure Coding 3 Sem Hrs
Prerequisite: HSC 105 and BIO 101W (or BIO 101 equivalent: BIO 140, or BIO 152 and 153, or BIO 171 and 172, or BIO 240 and 241). Presents procedure as it relates to physicians' health insurance claims processing; includes decision making necessary for accurate procedure code choices, abstracting procedure from health care documentation, and using CPT and HCPCS procedure coding systems. Course may be taken concurrently with OAT 243 Diagnostic Coding. (45-0)

OAT 254 Medical Insurance I 3 Sem Hrs
Prerequisite: OAT 116 and OAT 243 and OAT 244, all with a minimum grade of C (2.0) or permission of instructor. Includes diagnostic and procedure coding, basic insurance concepts, and terminology used by health insurance carriers. Includes insurance claims for the major insurance carriers. (45-0)

OAT 255 Medical Insurance II 3 Sem Hrs
Prerequisite: OAT 254 with a minimum grade of C (2.0) or permission of instructor. Studies Michigan Insurance claims processing including case study, coordination of benefits, adjustments, deductibles, co-pays, posting of payments and resolution of reimbursement problems. Includes insurance claims for the major insurance carriers.

OAT 260 Medical Transcription: Beginning 3 Sem Hrs
Prerequisite: OAT 172, HSC 105, and one of the following: BIO 101, BIO 131, BIO 132, BIO 140, BIO 152, BIO 153, BIO 160, or BIO 240; all with a minimum grade of "C" (2.0). Introduces cassette transcription machine operation and microcomputer to record physicians' dictation of medical progress notes, operative reports, letters, and miscellaneous medical documents. Incorporates extensive practice and application of medical terminology, spelling, grammar, punctuation, and capitalization. Uses various medical form formats. Credit may be earned in OAT 260 or OSE 260 but not in both. (45-0)

OAT 262 Medical Transcription: Intermediate 3 Sem Hrs
Prerequisites: OAT 260 or OSE 260 or OSE 276 with a minimum grade of C (2.0). Develops increasing proficiency in medical transcription skills through the use of progressively more complex material and an emphasis on student self reliance in the production of accurate and/or mailable medical documents. (45-0)

OAT 266 Medical Office Practice 4 Sem Hrs
Prerequisites: OAT 151 , OAT 172, OAT 254, and OAT 260, all with a C (2.0) grade minimum. Integrates medical office correspondence, reports, billing, appointments, medical records, medical-legal issues, priority setting, and electronic medical office management. Stresses job-task analysis and human relations. (60-0)

OAT 268 Administrative Office Practices 3 Sem Hrs
Prerequisites: OAT 151, OAT 172, CST 151, CST 257, CST 147 all with a C (2.0) grade minimum. Develops advanced office skills through the integration of MS Office programs and the use of Internet, e-mail, and electronic calendaring activities. Provides opportunities for problem solving, decision-making, and teamwork. (45-0)

OAT 273 Document Processing: Advanced 3 Sem Hrs
Prerequisite: OAT 172 with a "C" (2.0) grade minimum. Develops proficiency in using the advanced features of MS Word to produce documents used in various business offices. Emphasizes the use of appropriate punctuation, grammar, and mechanics in business documents. Increases speed and accuracy on the computer keyboard. (45-0)

OAT 285W Office Technology 3 Sem Hrs
Prerequisite: Minimum of 25 credit hours completed in Administrative Assistant program or permission of instructor. Introduces students to technological innovations in business and industry. Includes topics such as electronic communication, virtual conferencing, input technologies, collaboration, and information-sharing tools. Requires on-site visitations. (45-0)

OAT 290-299 Special Projects in Office Administration and Technology

Philosophy

PHL 203W Business Ethics 3 Sem Hrs
Prerequisite: READING LEVEL 2 or WRITING LEVEL 2. Serves as a foundation for the analysis of ethical conflicts arising in modern business. Develops a practical background in critical thinking, ethical decision-making, argumentation, and the justification of ethical positions. Examines concepts, case studies and topics covering issues such as employee and employer rights, the nature of profit, the nature of the capitalist system, justice, technology, privacy, due process, affirmative action, fraud, and the environment. (45-0)

PHL 205W Media Ethics & Law 3 Sem Hrs
Studies and analyzes various ethical and legal issues within the mass media. Develops analytical decision-making skills for resolving conflicts regarding privacy, confidentiality, freedom of speech, and media responsibility within the areas of television and radio broadcasting, print media, advertising and computer based information systems. (45-0)

PHL 207W Engineering Ethics 1 Sem Hr
Provides a foundation for the study and analysis of various ethical issues and dilemmas within the engineering profession. Develops analytical decision-making skills for resolving ethical conflicts. Studies topics such as ethical standards versus legal standards, safety hazards, whistle blowing, disclosure of information, professionalism, enhancement of human welfare through engineering competence and individual ethics versus job security. (15-0)

PHL 210W Information Technology Ethics & Law 2 Sem Hrs
Studies and analyzes ethical and legal issues in computing and the information technology industry. Develops analytical decision-making skills for issues including intellectual property, product piracy, copyright laws, pertinent court decisions, privacy and security, and software product quality. Includes special issues related to use of the Internet for information technology professionals. (30-0)

PHL 211HW Introduction to Philosophy - Honors 3 Sem Hrs
Prerequisite: READING LEVEL 4 and WRITING LEVEL 2 and permission of the Honors Office. Introduces the logic of philosophical thinking and to important philosophical issues. Covers such topics as proofs for the existence of God, the ultimate nature of reality, what it means to be human, and the nature of ethics. Presents historically important Western and non-Western philosophers and their theories. Allows opportunities to read about, discuss, analyze and write about course topics. Emphasizes understanding the issues, learning the various positions and arguments taken by philosophers, critically questioning those positions and arguments, and finally, reaching and defending personal philosophical conclusions. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned PHL 211 or PHL 211H but not both. (45-0)

PHL 211W Introduction to Philosophy 3 Sem Hrs
Prerequisite: READING LEVEL 2 or WRITING LEVEL 2. Introduces the logic of philosophical thinking and to important philosophical issues. Covers such topics as proofs for the existence of God, the ultimate nature of reality, what it means to be human, and the nature of ethics. Presents historically important Western and non-Western philosophers and their theories. Allows opportunities to read about, discuss, analyze and write about course topics. Emphasizes understanding the issues, learning the various positions and arguments taken by philosophers, critically questioning those positions and arguments, and finally, reaching and defending personal philosophical conclusions. Credit may be earned in PHL 211 or PHL 211H but not in both. (45-0)

PHL 213HW Introduction to Ethics - Honors 3 Sem Hrs
Prerequisite: READING LEVEL 4 and WRITING LEVEL 2 and permission of the Honors Office. Introduces historically important ethical issues, theories, concepts and philosophers. Teaches the basics of ethical decision-making and how to apply ethical concepts, theories and methods to their own personal ethical conflicts. Allows the opportunity to investigate, write about, and discuss controversial topics such as abortion, capital punishment, euthanasia, assisted suicide, social justice, affirmative action, sexuality, and environmental ethics. Emphasizes understanding and critically questioning the theories, positions and arguments made concerning the course topics, and to reach and defend their own conclusions on those topics. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in PHL 213 or PHL 213HW but not in both. (45-0)

PHL 213W Introduction to Ethics 3 Sem Hrs
Prerequisite: READING LEVEL 2 or WRITING LEVEL 2. Introduces historically important ethical issues, theories, concepts and philosophers. Teaches the basics of ethical decision-making and how to apply ethical concepts, theories and methods to their own personal ethical conflicts. Allows the opportunity to investigate, write about, and discuss controversial topics such as abortion, capital punishment, euthanasia, assisted suicide, social justice, affirmative action, sexuality, and environmental ethics. Emphasizes understanding and critically questioning the theories, positions and arguments made concerning the course topics, and to reach and defend their own conclusions on those topics. Credit may be earned in PHL 213 or PHL 213H but not in both. (45-0)

PHL 214W Philosophy of Religion 3 Sem Hrs
Investigates the rationality of religious beliefs, and the meaning of religious practices, religious language and questions of evidence. Focuses on questions concerning proof of the existence of a deity, the problem of evil, the interpretation of mystical experience, the nature of religious faith and more. (45-0)

PHL 215W Health Care Ethics 3 Sem Hrs
Prerequisites: READING LEVEL 2 or WRITING LEVEL 2. Introduces ethical problems arising within the health care environment. Includes the identification of ethical issues, ethical decision-making using various ethical principles, and the analysis of ethical conflicts. Covers such topics as euthanasia, assisted suicide, Do Not Resuscitate (DNR) orders, definitions of death, allocation of scarce medical resources, informed consent, confidentiality, justice, access to health care and the nature of professionalism in health care. (45-0)

PHL 221 Critical Thinking and Logic 4 Sem Hrs
Development of critical thinking skills through the study of formal and informal logic. Analysis of fallacies, methods of clear argumentation, syllogisms, inductive logic, scientific method and rational decision-making. (60-0)

PHL 225W Philosophy and Film 3 Sem Hrs
Prerequisite: READING LEVEL 2 or WRITING LEVEL 2. Introduces philosophy as an academic discipline, to film as an artistic and intellectual medium, and to the relationship between them. Examines a wide variety of films, and the philosophical themes of the films may include the nature of reality, truth and knowledge, the existence of God, consciousness and identity, ethics, political theory, race and gender, and death. Emphasizes the interpretation, evaluation, and discussion of the philosophical aspects of films. Develops the ability to view film and other visual media with greater sophistication, and to defend personal analyses of film and philosophy, both orally and in writing. (45-0)

PHL 230 Bioethics for Nursing 2 Sem Hrs
Addresses basic ethical concepts, principles, justification, and reasoning. Applies them to ethical issues and cases involving professionalism, confidentiality, veracity, paternalism, informed consent in the context of nursing. (30-0)

PHL 240HW Social and Political Theory - Honors 3 Sem Hrs
Prerequisites: LEVEL 4 READING and LEVEL 2 WRITING and permission of the Honors office. Examines past and present political and social systems from theoretical perspective. Entails comparison and evaluation of major ideologies and philosophies of the relationship of individuals to political and social institutions. Political systems such as socialism, communism, fascism, anarchism and liberalism will be explored. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in one of the following: PHL 240HW or PHL 240W or POL 240. (45-0)

PHL 240W Social and Political Theory 3 Sem Hrs
Examines past and present political and social systems from theoretical perspective. Entails comparison and evaluation of major ideologies and philosophies of the relationship of individuals to political and social institutions. Political systems such a socialism, communism, fascism, anarchism and liberalism explored. Credit may be earned in PHL 240 or POL 240 but not in both. (45-0)

PHL 250 Philosophy of Science and Technology 3 Sem Hrs
Investigates the nature of science as social process and as product; the nature and role of creativity in scientific and technological research; the influence of society and politics on technology and scientific thinking and research; the uses of technology; myths about science and technology; the role of inductive and deductive logic in the scientific process; the nature and conditions of a good test of an hypothesis and theory; the nature of scientific evidence; science as debate in process and as established knowledge. (45-0)

PHL 255W Philosophy of Art 3 Sem Hrs
Prerequisite: READING LEVEL 2 or WRITING LEVEL 2 and at least one previous Art or Philosophy course. Offers a serious philosophical investigation of the nature and value of art and theories about it. Investigates questions surrounding the history and practice of art, criticism, censorship, funding, the obligations of artists to society, the definition of art, and the standards for the evaluation of good and bad art. Develops the ability to apply classic theories to aesthetic issues and to critically assess analyses of art and aesthetics. Stresses the use of critical thinking skills in defense of personal analyses and opinions about art and aesthetic issues, both orally and in writing. (45-0)

PHL 260HW Philosophy Seminar - Honors 3 Sem Hrs
Prerequisite: LEVEL 4 READING and LEVEL 2 WRITING and permission of Honors office. Students must have completed one philosophy course. Intensive examination and critical analysis of a specific philosopher's works or a specific philosophical issue within any branch of philosophy, e.g., ethics, metaphysics, epistemology, social or political philosophy. Designed as a seminar for the advanced student. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in PHL 260 or PHL 260HW but not in both. (45-0)

PHL 260W Philosophy Seminar 3 Sem Hrs
Prerequisite: Students must have completed one philosophy course. Intensive examination and critical analysis of a specific philosopher's works or a specific philosophical issue within any branch of philosophy, e.g., ethics, metaphysics, epistemology, social or political philosophy. Designed as a seminar for the advanced student. Credit may be earned in either PHL 260W or PHL 260HW but not in both. (45-0)

PHL 290-299 Special Projects in Philosophy Sem Hr

Pharmacology

PHM 285 Pharmacology for Health Care Professionals 3 Sem Hrs
Prerequisite: Completion of BIO 152 or BIO 131 and 132 or BIO 240 and 241with a minimum grade of C. Presents the basic foundation of pharmacology. Offers drug information in group classification format and includes drug indications, action, contraindications, side effects, implications for administration, and related client/family teaching, integrates anatomy and pathophysiology, microbiology and drug administration concepts. Credit may be earned in NUR 285 or PHM 285, but not both. (45-0)

PHM 290-299 Special Projects in Pharmacology Sem Hr

Physics

PHY 101 Applied Physics 4 Sem Hrs
Prerequisite: MATH LEVEL 5. Introduces the basic physical principles involving mechanics, fluids, heat, conservation of energy, electricity, and sound. (60-30)

PHY 111 General Physics I 4 Sem Hrs
Prerequisites: Either trigonometry or both high school physics and MATH LEVEL 6. Examines the basic physical principles involving mechanics, heat, and sound. (60-45)

PHY 112 General Physics II 4 Sem Hrs
Prerequisites: Successful completion of PHY 111, with a minimum grade of "C" (2.0). Introduces basic physical principles involving electricity, magnetism, light, and modern physics. (60-45)

PHY 211 Physics I 5 Sem Hrs
Prerequisites: Successful completion of MTH 161, with a minimum grade of "C" (2.0). High school physics recommended. Examines the basic physical principles involving mechanics, heat, and sound. Meets the needs of Science and Engineering majors. (75-45)

PHY 212 Physics II 5 Sem Hrs
Prerequisites: Successful completion of PHY 211 and MTH 162, with a minimum grade of "C" (2.0) in each. Examines the basic physical principles involving electricity, magnetism, light, and modern physics. Meets the needs of Science and Engineering majors. (75-45)

PHY 213 Physics of Special Relativity 2 Sem Hrs
Prerequisite: MATH LEVEL 6 and "C" (2.0) minimum grade in PHY 111 or PHY 211 or Instructor's permission. Explores the implications of Einstein's Special Theory of Relativity. Includes both relativistic kinematics and dynamics. Discusses concepts of time dilation, length contraction, the famous equation $E=mc^2$, and standard problems such as the Twin Paradox. (30-0)

PHY 290-299 Special Projects in Physics Sem Hr

Practical Nursing

PNE 121LW Fundamentals of Practical Nursing Lab 3 Sem Hrs
Prerequisite: Current validation for PN Program. Concurrent enrollment in PNE 121. Introduces the Provider of Care role and includes opportunities to practice clinical nursing skills and techniques in the care of adults in selected clinical facilities. Introduces the Member within the Discipline of Nursing role through identification of legal and ethical considerations for the practical nurse. For successful completion, a grade of at least a "C" must be earned in both this course and its concurrent theory course (lab grade will be same as theory grade). A final grade of "F" will be assigned in both theory and lab if either course is not successfully completed. (0-135)

PNE 121W Fundamentals of Nursing 6 Sem Hrs
Prerequisite: Current validation for PN Program. Concurrent enrollment in PNE 121L. Focuses on the Nursing Process as applied to basic human needs, introduces concepts and theories related to holistic patient care and health education. Includes nutrition, cultural, psychosocial, basic mental health concepts and legal aspects pertaining to practical nursing. This theory course has a concurrent lab course. For successful completion, a grade of at least a "C" must be earned in this course and its concurrent lab course (lab grade will be same as theory grade). A final grade of "F" will be assigned in both theory and lab if either course is not successfully completed. (90-0)

PNE 122LW Care of Adult I Lab 3 Sem Hrs
Prerequisite: PNE 121 and PNE 121L with a minimum grade of "C" (2.0). Concurrent enrollment in PNE 122. Provides clinical opportunities to apply the roles of Provider of Care and Member within the Discipline of Nursing while providing care for the adult medical/surgical patient. For successful completion, a grade of at least a "C" must be earned in both this course and its concurrent theory course (lab grade will be same as theory grade). A final grade of "F" will be assigned in both theory and lab if either course is not successfully completed. (0-135)

PNE 122W Care of the Adult I 6 Sem Hrs
Prerequisite: PNE 121and PNE 121L with a minimum grade of "C" (2.0) . Concurrent enrollment in PNE 122L. Includes the study of altered systems: respiratory, endocrine, cardiac, neuro, hematology, immune, gastrointestinal, and renal. Study of concepts related to oncology, team dynamics, fluid and electrolyte balance, communication, teaching learning, nutrition, and pre- and post-operative care. This theory course has a concurrent lab course. For successful completion, a grade of at least a "C" must be earned in this course and its concurrent lab course (lab grade will be same as theory grade). A final grade of "F" will be assigned in both theory and lab if either course is not successfully completed. (90-0)

PNE 123LW Care of Adult II Lab 2 Sem Hrs
Prerequisite: PNE 122 and PNE 122L with a minimum grade of "C" (2.0) . Focuses on application of the provider of care and member within the discipline of nursing role while providing care for a group of clients and learning group dynamics. This lab course has a concurrent theory course (PNE 123). For successful completion, a grade of at least a "C" must be earned in this course and its concurrent theory course (lab grade will be same as theory grade). A final grade of "F" will be assigned in both theory and lab if either component is not successfully completed. (0-90)

PNE 123W Care of the Adult II 2 Sem Hrs
Prerequisite: PNE 122 and PNE 122L with a minimum grade of "C" (2.0). Concurrent enrollment in PNE 123L. Focuses on care of the adult patient experiencing healing alterations related to the following systems: musculoskeletal, eye-ear, skin and reproductive. Requires a concurrent lab course. For successful completion, a grade of at least a "C" must be earned in this course and its concurrent lab course (lab grade will be same as theory grade). A final grade of "F" will be assigned in both theory and lab if either component is not successfully completed. (30-0)

PNE 125LW Basic Maternal Child Lab 1 Sem Hr
Prerequisites: PNE 122 and PNE 122L with a minimum grade of "C" (2.0). Concurrent enrollment in PNE 123, 123L, and 125W is required. Provides clinical and laboratory opportunities that focus on basic family centered maternity care, growth and development, and care of pediatric patients and their families while working as a Provider of Care. For successful completion, a grade of at least a "C" must be earned in this course and its concurrent theory course (lab grade will be the same as theory grade). A final grade of "F" will be assigned in both theory and lab if either component is not successfully completed. Credit may be earned in PNE 125L or PNE 124L, but not both. (0-45)

PNE 125W Basic Maternal Child 3 Sem Hrs
Prerequisite: PNE 122 and PNE 122L with a minimum grade of "C" (2.0). Concurrent enrollment in PNE 123, 123L, and 125LW is required. Focuses on basic family centered maternity care, growth and development, care of pediatric patients and their families, assisting with attaining optimal state of wellness. For successful completion, a grade of at least a "C" must be earned in this course and its concurrent lab course (theory grade will be the same as lab grade). A final grade of "F" will be assigned in both theory and lab if either component is not successfully completed. Credit may be earned in PNE 125 or PNE 124, but not both. (45-0)

PNE 290-299 Special Projects in Practical Nursing

Political Science

POL 103CW American Government 3 Sem Hrs
Introduces the development and maintenance of the U.S. system of government. Surveys the nature of American political institutions, behavior, ideas and their structure. Explores core beliefs and their affect on government participation. Explores the role of citizens in a diverse democracy. Intended to be taken only as part of a Learning Community. Credit may be earned any POL 103 course, any POL 104 course, or any POL 111 course but not in both. (This course satisfies the American Government graduation requirement in all curricula.) (45-0)

POL 103HW American Government - Honors 3 Sem Hrs
Prerequisite: READING LEVEL 4 or 5B and WRITING LEVEL 4 or 4B and permission of the Honors Office. Introduces the development and maintenance of the U.S. system of government. Surveys the nature of American political institutions, behavior, ideas and their structure. Explores core beliefs and their affect on government participation. Explores the role of citizens in a diverse democracy. Credit may be earned in any POL 103 course, any POL 104 course, or any POL 111 course but not in more than one. (This course satisfies the American Government graduation requirement in all curricula.) (45-0)

POL 103W American Government 3 Sem Hrs
Prerequisite: READING LEVEL 2 or WRITING LEVEL 2. Introduces the development and maintenance of the U.S. system of government. Surveys the nature of American political institutions, behavior, ideas and their structure. Explores core beliefs and their affect on government participation. Explores the role of citizens in a diverse democracy. Credit may be earned in any POL 103 course, any POL 104 course, or any POL 111course but not in more than one. (This course satisfies the American Government graduation requirement in all curricula.) (45-0)

POL 104CW American Government with Project 4 Sem Hrs
Introduces the development and maintenance of the U.S. system of government. Surveys the nature of American political institutions, behavior, ideas and their structure. Explores core beliefs and their affect on government participation. Explores the role of citizens in a diverse democracy. Requires participation in a 15 hour service learning project outside the classroom with a community agency or organization. Intended to be taken only as part of a Learning Community. Credit may be earned in any POL 103 course, any POL 104 course, or any POL 111course but not in more than one. (This course satisfies the American Government graduation requirement in all curricula.) (45-15)

POL 104HW American Government with Project - Honors 4 Sem Hrs
Prerequisite: READING LEVEL 4 or 5B and WRITING LEVEL 4 or 4B and permission of the Honors Office. Introduces the development and maintenance of the U.S. system of government. Surveys the nature of American political institutions, behavior, ideas and their structure. Explores core beliefs and their effect on government participation. Explores the role of citizens in a diverse democracy. Requires participation in a 15 hour service learning project outside the classroom with a community agency or organization. Credit may be earned in any POL 103 course, any POL 104 course, or any POL 111course but not in both. (This course satisfies the American Government graduation requirement in all curricula.) (45-15)

POL 104W American Government with Project 4 Sem Hrs
Prerequisite: READING LEVEL 2 or WRITING LEVEL 2. Introduces the development and maintenance of the U.S. system of government. Surveys the nature of American political institutions, behavior, ideas and their structure. Explores core beliefs and their affect on government participation. Explores the role of citizens in a diverse democracy. Requires participation in a 15 hour service learning project outside the classroom with a community agency or organization. Credit may be earned in any POL 103 course, POL 104 course, or POL 111course, but not in more than one. (This course satisfies the American Government graduation requirement in all curricula.) (45-15)

POL 212W State and Local Governments 3 Sem Hrs
Prerequisite: LEVEL 2 READING or LEVEL 2 WRITING or co-enrollment in ENG 98. Examines the development, structure, organization and problems of the state and local units of government, along with their relation to the federal government. (This course satisfies the American Government graduation requirement in all curricula.) (45-0)

POL 215W Intro to American Political Thought and Culture 3 Sem Hrs
Prerequisite: LEVEL 2 READING or LEVEL 2 WRITING or co-enrollment in ENG 98. Introduces concepts central to American political thought, philosophy, and culture. Explores topics relevant to current political events. (This course satisfies the American Government graduation requirement in all curricula.) (45-0)

POL 220W Minority Group Politics 3 Sem Hrs
Prerequisite: LEVEL 2 READING or LEVEL 2 WRITING or co-enrollment in ENG 098. Examines the dynamics of minority group politics in the American political system. Analyzes the nature, role, techniques, and objectives of ethnic groups in the United States with special emphasis on African-Americans and Hispanics. (This course satisfies the American Government graduation requirement in all curricula.) (45-0)

POL 221W Comparative Government 3 Sem Hrs
Prerequisite: LEVEL 2 READING or LEVEL 2 WRITING or co-enrollment in ENG 98. Studies major European and selected non-western political systems. Emphasizes the techniques of comparative analysis and concepts of modernization, political development, and political culture. (This course satisfies the American Government graduation requirement in all curricula.) (45-0)

POL 222 Politics of the Middle East 3 Sem Hrs
Examines the internal and external dynamics that shape the politics, economy, and social make-up of Middle Eastern societies. Uses a multidisciplinary approach to explain and evaluate the politics of the region. (45-0)

POL 223W Judicial Process 3 Sem Hrs
Prerequisite: LEVEL 2 READING or LEVEL 2 WRITING or co-enrollment in ENG 98. Examines state and federal court systems, including the selection of judges, the roles of primary and secondary appellate courts in civil and criminal cases, lawyers and the organized bar, pressure groups, relations between state and federal courts, as well as the legislative and executive branches, access to courts, and judicial review. Emphasizes judicial policymaking, including constitutional law and civil liberties. (This course satisfies the American government requirement in all curricula.) (45-0)

POL 225W World Politics 3 Sem Hrs
Prerequisite: LEVEL 2 READING or LEVEL 2 WRITING or co-enrollment in ENG 98. Examines the nature and structure of world politics. Emphasizes the dynamics of conflict and cooperation, processes of foreign policy decision-making, and analytical approaches used to explain and assess how nations behave. Emphasizes the influence of contemporary issues in world politics on American government and politics. (This course satisfies the American Government graduation requirement in all curricula.) (45-0)

POL 228W Constitutional Issues 3 Sem Hrs
Prerequisite: LEVEL 2 READING or LEVEL 2 WRITING or co-enrollment in ENG 98. Examines civil rights/civil liberties based on the Constitution and their interpretation by the U.S. Supreme Court. Assesses controversial issues, including freedom of expression, freedom of religion, abortion, euthanasia, affirmative action, and the rights of persons accused of crime. (This course satisfies the American Government graduation requirement in all curricula.) (45-0)

POL 229W Political Terrorism 3 Sem Hrs
Studies state- and non-state sponsored terrorism: definition, origins, purposes, and nature of terrorism; tactics and weapons; objects and audiences; responses of objects and audiences: theory and case studies. (45-0)

POL 232W Campaigns and Elections 3 Sem Hrs
Prerequisite: READING LEVEL 2. Examines state and local, congressional, and presidential campaigns. Emphasizes electoral rules; campaign organization and finance; candidate strategy; role of parties, interest groups, and media; campaign effects; and proposals for reform. (45-0)

POL 241W Contemporary Feminist Thought 3 Sem Hrs
Provides a theoretical introduction to feminist thought and relates feminist thought to American political thought and American society. (45-0)

POL 268W International Studies in Political Science **1-4 Sem Hrs**
The student will elect to do either a survey study of the overall political system of a country other than the United States or an in-depth study of one or more aspects of that political system. Overseas study is an integral part of the course. Expenses for travel and overseas study must be borne by the student. (60-0)

POL 290-299 Special Projects in Political Science

Physical Science

PSC 101 Physical Science I **4 Sem Hrs**
Physical Science is a general education science lab course in the Physics Discipline. It focuses on some general physics, meteorology, geology, and astronomy concepts. This course is a potpourri of physical science concepts that are taught in a lecture and experimental environment. Recommended for non-science majors, including education majors. (45-30)

PSC 102 Physical Science II **4 Sem Hrs**
Prerequisite: PSC 101. Investigates fundamental concepts of chemistry and mechanics through a hands-on, applications based approach. Includes such topics as atomic structure, periodic table, bonding, chemical reactions, intermolecular forces, organic chemistry, motion of objects, forces and how they relate to simple machines, mechanical energy, and fluid mechanics. Complements Physical Science I, PSC 101. Recommended for non-science majors, including education majors. (45-30)

PSC 290-299 Special Projects in Physical Science

Psychology

PSY 101CW Applied Psychology **3 Sem Hrs**
Introduces basic principles of human relations that may be used in business and industry. Emphasizes understanding motivation and behavior in practical situations; helps in developing an appreciation of our own behavior so that students may work more successfully with supervisors and with peers. Intended to only be taken in a learning community combination. Credit may be earned in PSY 101 or PSY 101C. (45-0)

PSY 101W Applied Psychology **3 Sem Hrs**
Prerequisites: LEVEL 2 READING or LEVEL 2 WRITING. Introduces basic principles of human relations that may be used in business and industry. Emphasizes understanding motivation and behavior in practical situations; helps in developing an appreciation of our own behavior so that students may work more successfully with supervisors and with peers. (45-0)

PSY 211CW General Psychology **4 Sem Hrs**
Studies the scientific principles underlying experience and behavior. Examines human behavior in terms of the intrapsychic, behavioral, physiological, and environmental viewpoints. Also examines basic research methods, learning, social factors, developmental changes, physiology, sensation, perception, motivation, intelligence, and personality. Intended to only be taken in a learning community combination. Credit may be earned in only one of PSY 211, PSY 211H, or PSY 211C. (60-0)

PSY 211HW General Psychology - Honors **4 Sem Hrs**
Prerequisites: LEVEL 4 READING and LEVEL 2 WRITING and permission of the Honors Office. Studies the scientific principles underlying experience and behavior. Examines human behavior in terms of the intrapsychic, behavioral, physiological, and environmental viewpoints. Explores basic research methods, learning, social factors, developmental changes, physiology, sensation, perception, motivation, intelligence, and personality. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in PSY 211 or PSY 211H but not both. (60-0)

PSY 211W General Psychology **4 Sem Hrs**
Prerequisites: LEVEL 2 READING or LEVEL 2 WRITING. Studies the scientific principles underlying experience and behavior. Examines human behavior in terms of the intrapsychic, behavioral, physiological, and environmental viewpoints. Also examines basic research methods, learning, social factors, developmental changes, physiology, sensation, perception, motivation, intelligence, and personality. Credit may be earned in PSY 211 or PSY 211H but not in both. (60-0)

PSY 223W Child Psychology **3 Sem Hrs**
Prerequisite: PSY 211 with grade of "C" or better. Provides an in-depth understanding of the emotional, intellectual, social, and physical development in children from conception through adolescence. Considers the effect of heredity, environment, culture, and values on children's behavior, as well as the effect children have on adults' behavior. (45-0)

PSY 225W Adolescent Psychology **3 Sem Hrs**
Prerequisite: PSY 211. Provides a comprehensive exploration of the dynamic interdependency of physical, social, emotional and cognitive development of adolescents, beginning at the onset of puberty and culminating with a transition into adulthood. Explores the significance of adolescence in the total life span. Examines the influence of family, social, and cultural environments on individual development. Considers the developmental tasks and personal adjustment challenges associated with adolescence. (45-0)

PSY 227W Lifespan Development **3 Sem Hrs**
Prerequisite: PSY 211W. Provides a comprehensive exploration of human behaviors and thoughts from conception through late adulthood in terms of psychological, social, and biological processes. Explores the impacts and interactions of physical, cognitive, social, and moral development. Considers the impact of both heredity and environment on all aspects of behavior in human beings. (45-0)

PSY 230W Psychology of Substance Abuse **3 Sem Hrs**
Prerequisite: PSY 211. Studies the predominant theories developed to explain the origins and the prevalence of substance abuse. Examines social deprivation, addictive personality, X-factor, need state, ignorance, peer pressure, personality defects and socialization theories.

PSY 231W Theories of Personality **3 Sem Hrs**
Prerequisite: PSY 211. Examines theories of personality development from a psychodynamic, social learning and humanistic perspective. Critiques Individual theories regarding personality development, abnormality, psychotherapy, research, and the concept of humanity. (45-0)

PSY 235W Adult Development **3 Sem Hrs**
Prerequisites: PSY 211 and PSY 223. Examines human behavior and adaptation in the adult years. Discusses theories of adult development, psychological aspects of normal adulthood, and behavioral disorders due to aging. Emphasizes application of theoretical concepts and research findings. (45-0)

PSY 241W Abnormal Psychology **3 Sem Hrs**
Prerequisite: PSY 211 with grade of "C" or better. An examination of symptoms, and treatment of psychological disorders, including the psychodynamic, behavioral, humanistic, and neuroscience views of abnormal behavior. (45-0)

PSY 251W Social Psychology 3 Sem Hrs
Prerequisite: PSY 211W. Studies psychological factors underlying social behavior including conformity, group processes/interaction, aggression, altruism, interpersonal attraction, attitude formation, prejudice, discrimination, social perception, persuasion, conflict resolution, person perception and diversity. Focuses on fundamental ways in which social interactions shape thoughts, beliefs, emotions and behaviors. (45-0)

PSY 290-299 Special Projects in Psychology Sem Hr

PSY 300W Interviewing, Counseling, and the Helping Relationship 3 Sem Hrs
Prerequisite: ENG 111 or ENG 111A or ENG 111H with a "C" or better. Establishes beginning social work interviewing and relationship skills as well as awareness of the use of self in the helping relationship. Presents specific interviewing strategies for generalist social work practice. Includes student participation in practice sessions using role plays, videotapes and self awareness exercises. Provides opportunities to practice formal and informal writing. Credit may be earned in PSY 300 or SOC 300 but not in both. (45-0)

Physical Therapist Assistant

PTA 101 Applied Clinical Anatomy I 2 Sem Hrs
Prerequisite: Admission to the Physical Therapist Assistant Program. Concurrent enrollment in PTA 101LW, PTA 105, PTA 105LW, PTA 110, PTA 110L, ENG 113, and LW 206A. Provides skeletal anatomy concepts necessary to implement procedures utilized in physical therapy practice. Provides the technical and data collection knowledge necessary to assist a physical therapist with goniometry. Prepares the student to perform physical therapy intervention as part of a physical therapist's plan of care, under the direction and supervision of the physical therapist. (30-0)

PTA 101LW Applied Clinical Anatomy I Lab 1 Sem Hr
Prerequisite: Admission to the Physical Therapist Assistant Program. Concurrent enrollment in PTA 101, PTA 105, PTA 105LW, PTA 110, PTA 110L, ENG113, and LW206A. Provides the skills necessary for palpation of bony landmarks. Prepares the student to perform PROM and goniometric measurements. Prepares the student to perform physical therapy intervention as part of a physical therapist's plan of care, under the direction and supervision of the physical therapist. (0-45)

PTA 102 Clinical Neuroanatomy 2 Sem Hrs
Prerequisite: PTA 101, PTA 101LW, PTA 105, PTA 105LW, PTA 110, PTA 110L, ENG 113, and LW 206A, with a "C" (2.0) minimum grade. Concurrent enrollment in PTA 120, PTA 120L, PTA 123W, PTA 123LW, PTA 124, PTA 125, PTA 125LW, and LWA 206B. Provides the neuroanatomy concepts necessary to implement procedures utilized in physical therapy practice. Prepares the student to perform physical therapy intervention as part of a physical therapist's plan of care, under the direction and supervision of the physical therapist. (30-0)

PTA 105 Physical Agents I 2 Sem Hrs
Prerequisite: Admission to the Physical Therapist Assistant program. Concurrent enrollment in PTA 101, PTA 101LW, PTA 105LW, PTA 110, PTA 110L, ENG113, and LW 206A. Provides the theory and principles of modalities including, but not limited to, hydrotherapy, therapeutic massage, thermal agents, ultrasound, traction, intermittent compression, and cryotherapy. Prepares the student to perform physical therapy intervention as part of a physical therapist's plan of care, under the direction and supervision of the physical therapist. (30-0)

PTA 105LW Physical Agents I Lab 2 Sem Hrs
Prerequisite: Admission to the Physical Therapist Assistant program. Concurrent enrollment in PTA 101, PTA 101LW, PTA 105, PTA 110, PTA 110L, ENG 113, and LW 206A. Provides the technical skills to perform modalities including, but not limited to, hydrotherapy, therapeutic massage, thermal agents, ultrasound, traction, intermittent compression, and cryotherapy. Prepares the student to perform physical therapy intervention as part of a physical therapist's plan of care, under the direction and supervision of the physical therapist. (0-75)

PTA 110 Fundamentals of Patient Mobility 2 Sem Hrs
Prerequisite: Admission to the PTA program. Concurrent enrollment in PTA 101, PTA 101LW, PTA 105, PTA 105LW, PTA 110L, ENG 113, and LW 206A. Introduces basic principles of patient mobility. Focuses on the analysis of gait, gait training, use of assistive devices, patient transfers, postural assessment, balance and flexibility. (30-0)

PTA 110L Fundamentals of Patient Mobility Lab 1 Sem Hr
Prerequisite: Admission to the PTA program. Concurrent enrollment in PTA 101, PTA 101LW, PTA 105, PTA 105LW, PTA 110, ENG 113, and LW 206A. Prepares student to perform and instruct basic therapeutic exercise, activities of daily living, kinematic gait analysis, gross postural assessment, transfer techniques, and gait training with assistive devices. Prepares the student to perform physical therapy intervention as part of a physical therapist's plan of care, under the direction and supervision of the physical therapist. (0-45)

PTA 120 Orthopedic Rehabilitation 2 Sem Hrs
Prerequisites: PTA 101, PTA 101LW, PTA 105, PTA 105LW, PTA 110, PTA 110L, ENG 113, and LW 206A with a "C" (2.0) minimum grade in each. Concurrent enrollment in PTA 102, PTA 120L, PTA 123W, PTA 123LW, PTA 124, PTA 125, PTA 125LW, and LWA 206B. Introduces common orthopedic injuries and disabilities that affect adults and children. Provides entry-level principles and rationale needed to administer rehabilitation exercise programs for orthopedic conditions. Prepares the student to perform physical therapy intervention as part of a physical therapist's plan of care, under the direction and supervision of the physical therapist. (30-0)

PTA 120L Orthopedic Rehabilitation Lab 1 Sem Hr
Prerequisites: PTA 101, PTA 101LW, PTA 105, PTA 105LW, PTA 110, PTA 110L, ENG 113, and LW 206A with a "C" (2.0) minimum grade. Concurrent enrollment in PTA 102, PTA 120, PTA 123W, PTA 123LW, PTA 124, PTA 125, PTA 125LW, and LWA 206B. Provides entry-level technical skills needed to administer rehabilitation exercise programs for orthopedic conditions. Prepares the student to perform physical therapy intervention as part of a physical therapist's plan of care, under the direction and supervision of the physical therapist. (0-45)

PTA 121 Human Development I - Topics in Pediatrics 1 Sem Hr
Prerequisite: PTA 101, PTA 101LW, PTA 105, PTA 105LW, PTA 110, PTA 110L, ENG 113, and LW 206A, with a "C" (2.0) minimum grade. Provides theory in and observation of normal and abnormal physical development from birth through adolescence. Prepares the student to perform physical therapy intervention as part of a physical therapist's plan of care, under the direction and supervision of the physical therapist. (15-0)

PTA 123LW Clinical Medicine Lab .5 Sem Hr
Prerequisites: PTA 101, PTA 101LW, PTA 105, PTA 105LW, PTA 110, PTA 110L, ENG 113, and LW 206A with a "C" (2.0) minimum grade. Concurrent enrollment in PTA 102, PTA 120, PTA 120L, PTA 123W, PTA 124, PTA 125, PTA 125LW, and LWA 206B. Exposes the student to health care practices performed in the acute care environment. Prepares the student to perform physical therapy intervention as part of a physical therapist's plan of care, under the direction of the physical therapist. (0-15)

PTA 123W Clinical Medicine 2.5 Sem Hrs
Prerequisite: PTA 101, PTA 101LW, PTA 105, PTA 105LW, PTA 110, PTA 110L, ENG 113, and LW 206A with a "C" (2.0) minimum grade in each. Concurrent enrollment in PTA 102, PTA 120, PTA 120L, PTA 123LW, PTA 124, PTA 125, PTA 125LW, and LWA 206B. Introduces acute and chronic pathological conditions resulting from disease or injury that are commonly treated in physical therapy. Prepares the student to perform physical therapy intervention as part of a physical therapist's plan of care, under the direction of the physical therapist. (45-0)

PTA 124 PTA Clinic I 2 Sem Hrs
Prerequisite: PTA 101, PTA 101LW, PTA 105, PTA 105LW, PTA 110, PTA 110L, ENG 113, and LW 206A each with a "C" (2.0) minimum grade. Concurrent enrollment in PTA 102, PTA 120, PTA 120L, PTA 123W, PTA 123LW, PTA 125, PTA 125LW, and LWA 206B. Structures clinical experience to provide the opportunity to observe and assist with physical therapy procedures. Prepares the student to perform physical therapy intervention as part of a physical therapist's plan of care, under the direction and supervision of the physical therapist. (0-80)

PTA 125 Applied Clinical Anatomy II 1 Sem Hr
Prerequisite: PTA 101, PTA 101LW, PTA 105, PTA 105LW, PTA 110, PTA 110L, ENG 113, and LW 206A with a "C" (2.0) minimum grade. Concurrent enrollment in PTA 102, PTA 120, PTA 120L, PTA 123W, PTA 123LW, PTA 124, PTA 125LW, and LWA 206B. Provides the technical and data collection knowledge necessary to assist a physical therapist with goniometry and muscle testing. Prepares the student to perform physical therapy intervention as part of a physical therapist's plan of care, under the direction and supervision of the physical therapist. (15-0)

PTA 125LW Applied Clinical Anatomy II Lab 1 Sem Hr
Prerequisite: PTA 101, PTA 101LW, PTA 105, PTA 105LW, PTA 110, PTA 110L, ENG 113, and LW 206A with a "C" (2.0) minimum grade. Concurrent enrollment in PTA 102, PTA 120, PTA 120L, PTA 123W, PTA 123LW, PTA 124, PTA 125, and LWA 206B. Provides the technical and data collection skills necessary to assist a physical therapist with goniometry and muscle testing. Prepares the student to perform physical therapy intervention as part of a physical therapist's plan of care, under the direction and supervision of the physical therapist. (0-45)

PTA 205 Physical Agents II .5 Sem Hr
Prerequisites: PTA 102, PTA 120, PTA 120L, PTA 121, PTA 123W, PTA 123LW, PTA 124, PTA 125, PTA 125LW, ENG 113, and LWA 206B, with a "C" (2.0) minimum grade. Concurrent enrollment in PTA 205L PTA 210, PTA 210LW, PTA 213, PTA 213L, PTA 214W, and LWA 206C. Provides the theory and principles necessary to understand electrical stimulation and other advanced modalities. Prepares the student to provide physical therapy intervention as part of a physical therapist's plan of care, under the direction and supervision of the physical therapist. (12-0)

PTA 205L Physical Agents II Lab .5 Sem Hr
Prerequisite: PTA 102, PTA 120, PTA 120L, PTA 123W, PTA 123LW, PTA 124, PTA 125, PTA 125LW, and LWA 206B, with a "C" (2.0) minimum grade. Concurrent enrollment in PTA 205, PTA 210, PTA 210LW, PTA 213, PTA 213L, PTA 214W, and LWA 206C. Provides the technical skills necessary to perform electrical stimulation and other advanced modalities. Prepares the student to perform physical therapy intervention as part of a physical therapist's plan of care, under the direction and supervision of the physical therapist. (0-12)

PTA 209 Fundamentals of Pediatric Rehabilitation .5 Sem Hr
Prerequisites: PTA 102, PTA 120, PTA 120L, PTA 123, PTA 123L, PTA 124, PTA 124, PTA 125, and PTA 125L with a "C" (2.0) minimum grade. Concurrent enrollment in PTA 209L. Introduces students to various aspects of pediatric rehabilitation techniques for orthopedic and neurological disorders. Assesses abnormal behavior and discusses treatment techniques to enhance motor functions. Covers required documentation, legislative issues, and current topics related to providing physical therapy services for children. Prepares the student to perform physical therapy intervention as part of a physical therapist's plan of care, under the direction and supervision of the physical therapist. (10-0)

PTA 209L Fundamentals of Pediatric Rehabilitation Lab .5 Sem Hr
Prerequisite: Prerequisites: PTA 102, PTA 120, PTA 120L, PTA 123, PTA 123L, PTA 124, PTA 124, PTA 125, and PTA 125L with a "C" (2.0) minimum grade. Concurrent enrollment in PTA 209. Prepares students to perform pediatric rehabilitation techniques for orthopedic and neurological disorders. Improves independence and function of the child by assessing equipment needs, utilizing adaptive devices, specific positioning techniques, and utilizing treatment techniques to enhance motor functions. Prepares the student to perform physical therapy intervention as part of a physical therapist's plan of care, under the direction and supervision of the physical therapist. (0-10)

PTA 210 Neuro-Rehabilitation Techniques 2 Sem Hrs
Prerequisites: PTA 102, PTA 120, PTA 120L, PTA 121, PTA 123W, PTA 123LW, PTA 124, PTA 125, PTA 125LW, and LWA 206B, with a "C" (2.0) minimum grade. Concurrent enrollment in PTA 205, PTA 205L, PTA 210LW, PTA 213, PTA 213L, PTA 214W, and LWA 206C. Studies the advanced theory and treatment of patients with diagnosis of stroke, spinal cord injury, traumatic brain injury, as well as the treatments of sensor motor facilitation and inhibition techniques. Prepares the student to perform physical therapy intervention as part of a physical therapist's plan of care, under the direction and supervision of the physical therapist. (30-0)

PTA 210LW Neuro-Rehabilitation Techniques Lab 1 Sem Hr
Prerequisites: PTA 102, PTA 120, PTA 120L, PTA 121, PTA 123W, PTA 123LW, PTA 124, PTA 125, PTA 125LW, and LWA 206B, with a "C" (2.0) minimum grade. Concurrent enrollment in PTA 205, PTA 205L, PTA 210, PTA 213, PTA 213L, PTA 214W, and LWA 206C. Prepares student to utilize and perform treatment techniques for patients diagnosed with stroke, spinal cord injury, and traumatic brain injury. Prepares students to perform sensory motor facilitation and inhibition techniques. (0-60)

PTA 213 Orthotics and Prosthetics .5 Sem Hr
Prerequisites: PTA 102, PTA 120, PTA 120L, PTA 121, PTA 123W, PTA 123LW, PTA 124, PTA 125, PTA 125LW, and LWA 206B, with a "C" (2.0) minimum grade. Concurrent enrollment in PTA 205, PTA 205L, PTA 210, PTA 210LW, PTA 213L, PTA 214W, and LWA 206C. Promotes understanding of orthotic and prosthetic technologies. Studies appropriate use of these technologies. Prepares the student to perform physical therapy intervention as part of a physical therapist's plan of care, under the direction and supervision of the physical therapist. (12-0)

PTA 213L Orthotics and Prosthetics Lab .5 Sem Hr
Prerequisite: PTA 102, PTA 120, PTA 120L, PTA 121, PTA 123W, PTA 123LW, PTA 124, PTA 125, PTA 125LW, and LWA 206B, with a "C" (2.0) minimum grade. Concurrent enrollment in PTA 205, PTA 205L, PTA 210, PTA 210LW, PTA 213, PTA 214W, and LWA 206C. Prepares student to utilize orthotics and prosthetics, as well as to instruct patients to use this equipment. Prepares the student to perform physical therapy intervention as part of a physical therapist's plan of care, under the direction and supervision of the physical therapist. (0-15)

PTA 214W PTA Clinic 2 3 Sem Hrs
Prerequisite: PTA 102, PTA 120, PTA 120L, PTA 121, PTA 123W, PTA 123LW, PTA 124, PTA 125, PTA 125LW, and LWA 206B, with a "C" (2.0) minimum grade. Concurrent enrollment in PTA 205, PTA 205L, PTA 210, PTA 210LW, PTA 213, PTA 213L, and LWA 206C. Structures clinical experience to provide the opportunity to observe and assist physical therapy procedures. Prepares the student to perform physical therapy intervention as part of a physical therapist's plan of care, under the direction and supervision of the physical therapist. (0-160)

PTA 216W Introduction to Evidence Based Practice 1 Sem Hr
Prerequisites: PTA 102, PTA 120, PTA 120L, PTA 123, PTA 123L, PTA 124, PTA 125, PTA 125L. Corequisites: PTA 205, PTA 205L PTA 210, PTA 210L, PTA 213, PTA 213L, PTA 214. Introduces the use of Evidence Based Practice (EBP) in Physical Therapy. Focuses on defining EBP, designing clinical questions and searching common physical therapy research databases to support clinical decision making in the treatment of patients. Presents and utilizes basic research designs. Includes practical application of a clinical situation. (15-0)

PTA 221 Clinical Seminar 2 Sem Hrs
Prerequisite: PTA 205, PTA 205L, PTA 209, PTA 209L, PTA 210, PTA 210LW, PTA 213, PTA 213L, PTA 214W, and LWA 206C with a "C" (2.0) minimum grade. Concurrent enrollment in PTA 224. Studies professional, ethical, legal, and diversity issues related to clinical practice. Analyzes continuity and change in the health care system. Prepares the student to perform physical therapy intervention as part of a physical therapist's plan of care, under the direction and supervision of the physical therapist. (30-0)

PTA 222 Human Development II - Topics in Geriatric Rehabilitation 2 Sem Hrs
Prerequisites: PTA 101, PTA 101LW, PTA 105, PTA 105LW, PTA 110, PTA 110L, ENG 113, and LW 206A with a "C" (2.0) minimum grade. Provides Theory and clinical application of normal and abnormal physical and cognitive development in the aging process and focus on a geriatric client. Prepares the student to perform physical therapy intervention as part of a physical therapist's plan of care under the direction and supervision of the physical therapist. (30-0)

PTA 224W PTA Clinic 3 9 Sem Hrs
Prerequisite: PTA 205, PTA 205L, PTA 209, PTA 209L, PTA 210, PTA 210LW, PTA 213, PTA 213L, PTA 214W, and LWA 206C with a "C" (2.0) minimum grade. Concurrent enrollment in PTA 221. Structures clinical experience to provide opportunity for integration and refinement of the knowledge and skills necessary for entry level employment. (0-480)

PTA 290-299 Special Projects in Physical Therapy Assisting

Quality Assurance

QA 110 Quality Problem Solving Tools 1 Sem Hr
Develops basic skills in the use of charts and graphs as tools used in solving problems in a Quality Management organization. Demonstrates twenty-six tools such as Pareto chart, flow charts, cause/effect diagrams, control charts, etc. (15-0)

QA 120 Quality & Productivity Management 2 Sem Hrs
Personnel in management and supervisory positions will demonstrate the skills and insight needed to manage effectively in a quality-conscious work environment. This is done through the study of the philosophies of Deming, Juran, Crosby, Shainin, Taguchi, and with statistical problem solving techniques. (30-0)

QA 124 Quality Systems I 3 Sem Hrs
Prerequisite QA 120 or permission of instructor. Personnel in management and supervisory positions will demonstrate the skills to effectively plan and implement a quality system and show its relationship to other functions in an organization. This is done through the study of the Quality Function and its applications applied to service, business and industry. (45-0)

QA 125 Quality System Design 3 Sem Hrs
Introduces quality assurance methods used by manufacturing and service industries. Examines the concept of a system and identifies techniques used to reduce variation and optimize the system so it produces its intended outcome. Includes quality philosophy, statistical methods for process improvement, variation reduction methods, statistical process control and problem-solving, processes capabilities and data acquisition. (45-0)

QA 126 Quality Systems II 3 Sem Hrs
Prerequisite: QA 120. Demonstrates the skills to interface internal quality systems with external quality systems. Emphasizes applications for service, business and industry. (45-0)

QA 140 Measurement Systems 3 Sem Hrs
Introduces skill development in measurement analysis and measurement systems management. Emphasizes industrial measurement issues involving mechanical gauging and inspection instruments. Determines gauge and dimensional relationships along with describing the various types of industrial gauges and their usage. Explores gauge management issues and ISO 9000 requirements. Credit may be earned in either QA 140 or SKQA 140 but not in both. (45-0)

QA 244 Statistical Process Control 3 Sem Hrs
Prerequisite: MTH 208 Develops skill in the use of control charts to monitor processes. Selects proper control chart, constructs the control chart from process data, and analyzes it for statistical stability. Includes both attribute and variable data control charts to determine process capability. (45-0)

QA 290-299 Special Projects in Quality Assurance

Radiography

RAD 100 Basic Science of Medical Imaging 2 Sem Hrs
Prerequisites: Admission to Radiography program. Concurrent enrollment in RAD 104W, RAD 105, RAD 108, RAD 110, and LW 206A. Presents the basic operations of generating equipment including electrodynamics, electromagnetism, rectification, and circuitry related to the production of x-radiation. Credit may be earned in RAD 232 or RAD 100 but not both. (30-0)

RAD 104W Introduction to Medical Imaging 2 Sem Hrs
Prerequisite: Admission to the Radiography Program. Concurrent enrollment in RAD 100, RAD 105, RAD 108, RAD 110, and LW 206A. Provides an introduction to medical imaging and its role in patient diagnosis and care and basic imaging concepts, systems, and techniques. Includes the structure and operation of health care organizations and health care distribution. Emphasizes professional, legal, and ethical issues related to diagnostic imaging. (30-0)

RAD 105 Fundamentals of Radiography 3 Sem Hrs
Prerequisite: Admission to the Radiography Program. Concurrent enrollment in RAD 100, RAD 104W, RAD 108, RAD 110, and LW 206A. Provides the fundamental theory and skills related to the production of x-radiation. Emphasizes the basic components of radiographic equipment, the characteristics of radiation, and imaging formation. Includes methods of control of radiation and image recording systems. (24-21)

RAD 108 Patient Care and Management 2 Sem Hrs
Prerequisite: Admission to Radiography Program. Concurrent enrollment in RAD 100, RAD 104W, RAD 105, RAD 110, and LW 206A. Develops knowledge and skills in basic concepts of patient care. Includes emergency care procedures, infection control, patient safety and transfers, communication, and patient education. (30-0)

RAD 110 Principles of Radiographic Exposure 2 Sem Hrs
Prerequisite: Admission to Radiography Program. Concurrent enrollment in RAD 100, RAD 104W, RAD 105, RAD 108, and LW 206A. Provides the theory and skills necessary to analyze the diagnostic quality of a radiograph and effectively manipulate exposure variables to produces a diagnostic radiograph. (15-23)

RAD 120W Principles of Radiation Biology and Protection 2 Sem Hrs
Prerequisite: RAD 100, RAD 104, RAD 105, RAD 108, RAD 110, and LW 206A, each with a minimum grade of "C" (2.0). Concurrent enrollment in RAD 130, RAD 135, RAD 140, LWA 206B, and LWA 206C. Examines biological effects of radiation on cells, organs, and systems. Emphasizes methods of practice including radiation exposure standards and radiation monitoring. (30-0)

RAD 130 Radiographic Procedures 1 2 Sem Hrs
Prerequisite: RAD 100, RAD 104, RAD 105, RAD 108, RAD 110, and LW 206A, each with a "C" (2.0) minimum grade. Concurrent enrollment in RAD 120, RAD 135, RAD 140, LWA 206B, and LWA 206C. Introduces the basic terminology of radiographic positioning. Provides the knowledge and skill necessary to perform radiographic procedures of the chest, upper and lower limbs. Includes pediatric, geriatric, surgical, and trauma applications for these procedures. (15-23)

RAD 135 Clinical Education 1 6 Sem Hrs
Prerequisites: RAD 100, RAD 104W, RAD 105, RAD 108, RAD 110, and LW 206A, each with a "C" (2.0) minimum grade. Concurrent enrollment in RAD 120W, RAD 130, RAD 140W, LWA 206B, and LWA 206C. Provides structured clinical experience necessary to perform radiographic procedures of the chest, and upper and lower limbs. (0-285)

RAD 140W Clinical Seminar 1 1 Sem Hr
Prerequisites: RAD 100, RAD 104W, RAD 105, RAD 108, RAD 110, and LW 206A, each with a "C" (2.0) minimum grade. Concurrent enrollment in RAD 120W, RAD 130, RAD 135, LWA 206B, and LWA 206C. Provides a clinical overview of radiographic procedures of the chest and upper and lower limbs. Emphasizes the correlation of all aspects of a radiographic procedure. (15-0)

RAD 150 Radiographic Procedures 2 2 Sem Hrs
Prerequisites: RAD 120W, RAD 130, RAD 135, RAD 140W, LWA 206B, and LWA 206C each with a "C" (2.0) minimum grade. Concurrent enrollment in RAD 160 and RAD 165W. Continues radiographic positioning and provides the knowledge and skill necessary to perform radiographic procedures of the abdomen and gastrointestinal, biliary, and urinary systems. Includes image intensification and tomography. Demonstrates the knowledge and skills necessary to perform venipuncture. (15-23)

RAD 160 Clinical Education 2 7 Sem Hrs
Prerequisite: RAD 120W, RAD 130, RAD 135, RAD 140W, LWA 206B, and LWA 206C each with a "C" (2.0) minimum grade. Concurrent enrollment in RAD 150 and RAD 165W. Provides structured clinical experience necessary to perform radiographic procedures of the abdomen and biliary, gastrointestinal, and urinary systems. Requires weekend and evening assignments. (0-395)

RAD 165W Clinical Seminar 2 1 Sem Hr
Prerequisites: RAD 120W, RAD 130, RAD 135, RAD 140W, LWA 206B, and LWA 206C each with a "C" (2.0) minimum grade. Concurrent enrollment in RAD 150 and RAD 160. Provides a clinical overview of radiographic procedures of the abdomen and gastrointestinal, biliary, and urinary systems. Emphasizes the correlation of all aspects of a radiographic procedure. (15-0)

RAD 205W Pharmacology In Imaging 1 Sem Hr
Prerequisites: RAD 150, RAD 160, and RAD 165 each with a "C" (2.0) minimum grade. Concurrent enrollment in RAD 210, RAD 212, RAD 215, RAD 220, and RAD 225. Presents the basic principles of pharmacology in imaging. Includes the basic techniques of venipuncture and the administration of diagnostic contrast agents and intravenous medications. (15-0)

RAD 210W Pathology in Radiography 1 Sem Hr
Prerequisites: RAD 150, RAD 160, and RAD 165, each with a "C" (2.0) minimum grade. Concurrent enrollment in RAD 205, RAD 212, RAD 215, RAD 220, and RAD 225. Provides an overview of the pathological processes that occur as a consequence of aging, disease, heredity, or trauma including signs, symptoms, and clinical manifestations. (15-0)

RAD 212 Advanced Imaging Equipment 1 Sem Hr
Prerequisites: RAD 150, RAD 160, and RAD 165 each with a "C" (2.0) minimum grade. Concurrent enrollment in RAD 205, RAD 210, RAD 215, RAD 220, and RAD 225. Must successfully complete RAD 205W with a "C" (2.0) minimum grade. Presents the basic principles of operation of CT, MRI, PET, Ultrasound, Nuclear Medicine, Fluoroscopy, Mammography, Tomography, Radiation Therapy, Bone Densitometry, Angiography and Subtraction/Duplication equipment. (15-0)

RAD 215 Radiographic Procedures 3 2 Sem Hrs
Prerequisite: RAD 150, RAD 160, and RAD 165, each with a "C" (2.0) minimum grade. Concurrent enrollment in RAD 205, RAD 210, RAD 212, RAD 220, and RAD 225. Continues radiographic positioning. Provides the knowledge and skill necessary to perform radiographic procedures of the shoulder girdle, bony thorax, cervical spine, thoracic spine, lumbar spine, pelvis and hips. Includes pediatric, geriatric, surgical, and trauma applications for these procedures. (15-23)

RAD 220 Clinical Education 3 7 Sem Hrs
Prerequisites: RAD 150, RAD 160 and RAD 165 each with a "C" (2.0) minimum grade. Concurrent enrollment in RAD 205, RAD 210, RAD 212, RAD 215, and RAD 225. Provides structured clinical experience necessary to perform radiographic procedures of the shoulder girdle, bony thorax, cervical spine, thoracic spine, lumbar spine, pelvis, hips and femur. May require weekend and evening assignments. (0-395)

RAD 225W Clinical Seminar 3 1 Sem Hr
Prerequisites: RAD 150, RAD 160, and RAD 165 each with a "C" (2.0) minimum grade. Concurrent enrollment in RAD 205, RAD 210, RAD 212, RAD 215, and RAD 220. Provides a clinical overview of radiographic procedures of the shoulder girdle, bony thorax, cervical spine, thoracic spine, lumbar spine, pelvis, and hips. Emphasizes the correlation of all aspects of a radiographic procedure. (15-0)

RAD 230 Quality Improvement in Imaging 1 Sem Hr
Prerequisite: RAD 205, RAD 210, RAD 212, RAD 215, RAD 220, and RAD 225 each with a "C" (2.0) minimum grade. Concurrent enrollment in RAD 235, RAD 245 and RAD 258. Introduces the principles of continuous quality improvement in radiology. Includes risk management, problem identification and analysis and quality assurance of the imaging systems (15-0)

RAD 235 Radiographic Procedures 4 2 Sem Hrs
Prerequisite: RAD 205, RAD 210, RAD 212, RAD 215, RAD 220, and RAD 225 each with a "C" (2.0) minimum grade. Concurrent enrollment in RAD 230, RAD 245, and RAD 258. Continues radiographic positioning. Provides the knowledge and skill necessary to perform radiographic procedures of the skull and facial cranium. Includes pediatric, geriatric, surgical, and trauma applications for these procedures. (15-23)

RAD 245 Clinical Education 4 7 Sem Hrs
Prerequisite: RAD 205, RAD 210, RAD 212, RAD 215, RAD 220, and RAD 225 each with a "C" (2.0) minimum grade. Concurrent enrollment in RAD 230, RAD 235, and RAD 258. Provides structured clinical experience necessary to perform radiographic procedures of the skull and facial cranium. Requires weekend and evening assignments. (0-395)

RAD 258W Radiography Capstone Seminar 2 Sem Hrs
Prerequisites: RAD 205, RAD 210, RAD 212, RAD 215, RAD 220, and RAD 225. Concurrent enrollment in RAD 230, RAD 235, and RAD 245. Provides strategies and opportunities to enhance the likelihood of success on the national ARRT registry examination. Credit may be earned in RAD 258 or RAD 250 but not in both. (30-0)

RAD 264 Cross Sectional Imaging 1 Sem Hr
RAD 205, RAD 210, RAD 212, RAD 215, RAD 220, and RAD 225 each with a "C" (2.0) minimum grade. Concurrent enrollment in RAD 230, RAD 235, RAD 245, and RAD 258. Introduces sectional anatomy as imaged in modalities such as Computed Tomography, Magnetic Resonance Imaging (MRI), and Positron Emission Tomography (PET). (15-0)

RAD 290-299 Special Projects in Radiography Sem Hr

Residential Construction

RC 101 Construction Print Interpretation 3 Sem Hrs
Instruction in this course includes trade terminology and description of the various views of working drawings, pictorial drawings, and the basic procedures in development of these drawings. Also included is the interpretation of specifications and job information as they pertain to construction and layout. Credit may be earned in either RC 101 or SKCT 111 but not both. (45-0)

RC 104 Construction Lab 3 Sem Hrs
Studies the care and use of woodworking tools. Includes tool terminology, purpose and uses of various tools and the functional principles of woodworking hand tools, including those which are power or pneumatically driven. (15-60)

RC 106 Concrete and Foundations 3 Sem Hrs
Prerequisite: ARC 101. Studies practical methods and procedures of preparing and setting concrete forms for such areas as basement floors, garage floors, driveways, sidewalks, patios, etc. (45-15)

RC 108 Construction Safety 2 Sem Hrs
Studies Occupational Safety and Health Administration (OSHA) safety and health standards required of residential builders. Includes training in first aid and cardio pulmonary resuscitation (CPR) to treat on-the-job injuries. Students will produce a MIOSHA approved safety program. (30-0)

RC 114 Framing Square 4 Sem Hrs
Uses the framing square and speed square in construction. Credit may be earned in either RC 114 or SKCT 114 but not both. (60-0)

RC 200W Construction Contracting Rules and Regulations 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition I course. Introduces contracting laws, rules, and regulations as they apply to residential builders. Covers builder's law, builder's license, insurance, deeds and abstracts, loans and land development. (45-0)

RC 201 Rough and Outside Framing 4 Sem Hrs
Prerequisite: RC 104. Provides instruction in the techniques of construction used in all phases of framing and exterior finishing. Credit may be earned in either RC 201 or SKCT 201 but not in both. (30-60)

RC 203 Residential CAD 3 Sem Hrs
Introduces residential design using a 3-D drawing program. Moves from basic plan replication to the designing, drawing, and plotting of a set of construction drawings. (15-60)

RC 204 Inside Finishing and Hardware 4 Sem Hrs
Prerequisites: RC 104, RC 114, and RC 201. Includes principles of interior construction, joinery and installation, and finishing of all types of interior trim. (45-45)

RC 205 Cabinet Making and Millwork 5 Sem Hrs
Prerequisite: RC 104. Studies the construction, placement, and installation procedures of cabinets used in residential buildings. (45-60)

RC 206 Plumbing, Heating, and Electrical Equipment 3 Sem Hrs
Designed to study equipment installation as it pertains to construction and carpentry. Credit may be earned in RC 206 or ARC 111 but not in both. (45-0)

RC 290-299 Special Projects in Residential Construction

Reading - College Prep

RDG 093W Effective Reading and Vocabulary Development 4 Sem Hrs
Prerequisite: READING LEVEL 1. Designed for those whose academic and personal needs call for building skills, confidence, greater comprehension, and enjoyment of reading. Includes techniques for understanding and remembering a wider reading vocabulary. A pplies reading strategies to a wide variety of reading materials under the guidance of an instructor. Does not earn credit towards graduation. Credit may be earned in only one of ENG 093 or RDG 093 or ENG 108. (60-0)

RDG 097W Academic Reading 3 Sem Hrs
Prerequisite: READING LEVEL 2. Designed for those who are good readers, but who still need to make improvements in reading, voabulary, and critical thinking to become successful and independent college students. Provides instruction and practice in study-reading college level texts; opportunities for self-selected research, reading and sharing of information; and the chance to select and read imaginative materials for pleasure and increased self-confidence as a reader. Does not earn credit towards graduation. Credit may be earned in only one of: ENG 097, RDG 097, or ENG 109. (45-0)

Refrigeration, Heating & Air Conditioning

RHA 121 Fundamentals of Refrigeration & A/C 3 Sem Hrs
Examines the physical, gas, and chemical laws of refrigeration. Develops an understanding of the theory of heat, temperatures, pressures of gases and thermodynamics. Analyzes basic refrigeration cycle and components such as vacuum pumps, gauges, and (PT) Pressure Temperature Charts. Develops an understanding of units on safety and EPA Refrigerant Certification. Credit may be earned in RHA 121 or SKPT 121 but not in both. (35-10)

RHA 122 Refrigeration & A/C Service I 3 Sem Hrs
Prerequisites: RHA 121. Focuses on concepts of common types of domestic refrigerators, dehumidifiers, and portable air conditioners. Develops an understanding of special references involving the essentials of construction of complete refrigeration systems. Presents theory and principles underlying repairing refrigeration appliances and practical shop work through classroom demonstrations and lab experiments. Credit may be earned in either RHA 122 or SKPT 122 but not in both. (35-10)

RHA 123 Commercial Refrigeration Flow Controls I 3 Sem Hrs
Prerequisite: RHA 122. Develops an understanding of basic skills necessary for servicing of commercial units such as walk-in coolers, reach-ins, display cases, and commercial icemakers. Analyzes refrigeration flow-control components, system components, and piping practices. Credit may be earned in either RHA 123 or SKPT 123 but not in both. (35-10)

RHA 124 Refrigeration & A/C Service II 3 Sem Hrs
Prerequisite: RHA 122. Develops an understanding of operational skills in trouble shooting domestic refrigeration and air conditioning systems. Focuses on electrical components and system parts in frost-free, conventional and cyclematic units, and portable air conditioning units. Credit may be earned in either RHA 124 or SKPT 124 but not in both. (35-10)

RHA 126 Refrigerant Piping & Practices 3 Sem Hrs
Provides instruction in proper methods of brazing joint design using oxyacetylene torches. Develops skills to correctly size, lay out, and install tubing and piping in refrigeration and heating systems. Covers flow capacities of tubing and piping. Examines techniques to cut pipe threads, use pipe fittings, form swag and flare joints, work with plastic vent pipe and plastic drainpipe, work with high temperature solders and fluxes and learn about fastening devices. (35-10)

RHA 135 Heating System Fundamentals 3 Sem Hrs
Focuses on the principles of heating systems, types of fuels, electric heating, venting for combustion furnaces, and the methods of correct duct design through lecture and demonstration. Develops skills and basic knowledge of furnace components, testing, and operations. Reviews indoor air quality enhancements and basic mechanical codes for heating and gas piping installations. Credit may be earned in RHA 135 or SKPT 126 but not in both. (35-10)

RHA 136 Heating Service Fundamentals 3 Sem Hrs
Prerequisite RHA 140 and RHA 135. Examines the electrical schematics on most gas furnace manufacturers' equipment and perform live diagnostics using the multi meters wiring diagrams and shop furnaces. Tests for gas pressures, gas flow rates, and correct air flow measurement. Focuses on diagnostics involving the electrical circuits, airflow rates, gas pressures, gas flow rates and trouble-shooting the furnaces. (35-10)

RHA 140 Applied Electricity I 3 Sem Hrs
Prerequisite: MATH LEVEL 4. Covers basic fundamentals of electricity that include introductory schematic symbols and basic electrical circuits, Ohms law, power formulas, series and parallel circuit rules, combination circuits, magnetism, capacitance, inductance and reactance in electrical DC and AC circuits. Applies the above fundamentals to electrical circuits and electrical schematics; calculate voltage, current, resistance and wattage as they apply in an electrical circuit; interpret electrical problems on the refrigeration or heating unit. Uses the multi meter as an Ohmmeter, as a voltmeter, and as an amp meter. Credit may be earned in RHA 140 or SKET 106 but not in both. (45-0)

RHA 142 Sheetmetal Layout I 3 Sem Hrs
Analyzes and develops geometrical structures, intersections by radial and triangulation methods of sheet metal layout, the drawing of development layouts, and the forming of actual models with sheet metal. Credit may be earned in RHA 142 or SKMT 171, but not both. (35-10)

RHA 146 Residential Air Conditioning Systems 3 Sem Hrs
Prerequisite: RHA 121 and RHA 126. Develops skills related to mechanical air conditioning equipment used in comfort cooling and heat pump applications. Examines split and self-contained air conditioning systems. Evaluates and trouble-shoots diagnostics, proper piping, charging methods, and wire diagrams. (35-10)

RHA 150 Refrigerant Certification 1 Sem Hr
Focuses on the EPA mandates for refrigerant recovery instruction and testing. Prepares for the EPA Refrigeration Certification test. Covers concepts of information a technician will require to successfully complete the test. You must achieve a score of 80% or higher in 4 test areas to be eligible for certification. Those tests are the Core Area Test, Type I Certification, Type II Certification, and Type III or Universal Certification. To earn an EPA approved Refrigeration Certification License you must pass the Refrigeration Certification test. (15-0)

RHA 210W Commercial Air Conditioning 3 Sem Hrs
Prerequisite: MATH LEVEL 4 and RHA 146. Develops an understanding of AC electrical fundamentals concerning the operation, installation, and analysis of HVACR components and control circuits used in commercial air conditioning systems. Examines single- and poly-phase transformers and motors, heating and air conditioning controls, commercial timers, motor starters, contactors, relays, and other control devices. Focuses on rooftop units, split system air-conditioning units, and self-contained air-conditioning units. Includes hands-on training on wiring diagrams, wiring projects, and sealed systems. (35-10)

RHA 225 Commercial Refrigeration II 3 Sem Hrs
Prerequisite: RHA 123. Develops additional skills and understanding in the servicing of commercial units such as walk-in coolers, reach-ins, display cases, and commercial icemakers. Focuses on electrical systems and diagrams. Analyzes single-phase systems and three-phase systems. Credit may be earned in either RHA 225 or SKPT 225, but not in both. (35-10)

RHA 230 Design of HVAC Systems 5 Sem Hrs
Prerequisite: RHA 135. Focuses on heat gain and loss in residential and commercial structures with both forced air and hydronics representation. Explores computerized and manual load calculations and air system instrumentation in the lab sessions. Develops skills in use of Manual J and Manual D computer editions for heat load and duct sizing. (45-30)

RHA 233W Commercial Refrigeration III 5 Sem Hrs
Prerequisite: RHA 122 and RHA 225. Examines and identify refrigeration units associated with supermarket applications and the food industry. Diagnoses multiplex systems and self-contained equipment for medium/low temperature applications such as piping and trouble shooting mechanical and electrical components. (45-30)

RHA 235 Hydronic and Oil Heating Fundamentals 3 Sem Hrs
Prerequisite: RHA 135. Explains parts of the hydronic systems and oil furnaces that include the operating sequences for safe, efficient combustion and flame safety. Trouble-shoots electrical and electronic control systems, flame safety, and mechanical problems on oil fired furnaces, boilers, hydronic systems, and wire diagrams. (35-10)

RHA 290-299 Special Projects in Refrigeration/Heating & Air Conditioning

Respiratory Care

RT 100 Basic Sciences for Respiratory Care 2 Sem Hrs
Prerequisite: MATH LEVEL 4 or MTH 097 with "C" (2.0) minimum grade within the past five years. Introduces the basic principles of math, chemistry, and physics utilized in the field of respiratory care. Emphasizes the physical and chemical principles relating to liquids and gases as they provide a foundation for the study of respiratory care. Includes a required job shadow experience to become validated. This may require that students complete an online training session, have proof of a negative TB tine test and other supporting documentation before gaining access to the agency. (30-0)

RT 117 Basic Respiratory Care I 3 Sem Hrs
Prerequisite: Admission to the Respiratory Care Program. RT 118, RT 121, RT 126, and RT 131 must be taken concurrently. Presents the theory and application of skills required for the delivery of the basic respiratory care modalities of medical gases, humidity, and aerosol therapy. Emphasizes treatment of adult and pediatric patients with application to specific disease states. (39-12)

RT 118 Basic Respiratory Care II 3 Sem Hrs
Prerequisite: Admission to the Respiratory Care Program. RT 117, RT 121, RT 126, and RT 131 must be taken concurrently. Presents the theory and application of skills required to control transmissible diseases, to perform an appropriate physical assessment of the respiratory care patient, and for the delivery of the basic respiratory care modalities of pharmacology, incentive spirometry, and chest physical therapy. Emphasizes treatment related to adult and pediatric patients with application to the specific disease states. (38-14)

RT 121 Orientation to RC 2 Sem Hrs
Prerequisite: Admission to the Respiratory Care Program. RT 117, RT 118, RT 126, and RT 131 must be taken concurrently. Introduces the role of a professional respiratory therapist from an historical, professional, and management perspective as well as the clinical setting. Includes CPR for the Professional Rescuer.(15-30)

RT 126 Clinical Education I 3 Sem Hrs
Prerequisite: Admission to the Respiratory Care program. RT 117, RT 118, RT 121, and RT 131 must be taken concurrently. Provides the opportunity in the clinical setting to apply and practice skills learned. (0-120)

RT 131 Artificial Airway Care and Manual Ventilation 2 Sem Hrs
Prerequisite: Admission to the Respiratory Care Program. RT 117, RT 118, RT 121, & RT 126 must be taken concurrently. Presents the theory and application of skills required to provide care of the patient with an artificial airway and manual ventilation.(26-8)

RT 132 Adult Ventilatory Care 3 Sem Hrs
Prerequisites: RT 117, RT 118, RT 121, RT 126,and RT 131. RT 135, RT 146, and RT 149 must be taken concurrently. Presents the theory and application of skills required to provide adult mechanical ventilatory care. (39-12)

RT 135 Diagnostics and Special Procedures 4 Sem Hrs
Prerequisites: RT 117, RT 118, RT 121, RT 126, & RT 131. RT 132, RT 146, and RT 149 must be taken concurrently. Presents the theory and application of skills required to perform arterial and mixed venous blood sampling and analysis, basic pulmonary function testing, and to interpret the results of and make recommendations for care based on these diagnostic procedures. Emphasizes the respiratory therapist's role in chest and lateral neck x-ray evaluation, bronchoscopy, and chest tube drainage. (54-12)

RT 146 Clinical Education II 6 Sem Hrs
Prerequisites: RT 117, RT 118, RT 121, RT 126 and RT 131. RT 132, RT 135, and RT 149 must be taken concurrently. Provides the opportunity to apply clinical skills with emphasis on the critically ill patient. (0-240)

RT 149 Clinical Ed 2 Seminar 1 Sem Hr
Prerequisites: RT 117, RT 118, RT 121, RT 126, and RT 131. RT 132, RT 135, and RT 146 must be taken concurrently. Provides the opportunity to integrate the classroom and clinical activities of the concurrent courses in a seminar format. (15-0)

RT 150 Cardiovascular Evaluation and Monitoring 3 Sem Hrs
Prerequisites: RT 132, RT 135, RT 146, & RT 149. Presents the theory and application of skills required to provide adult hemodynamic and ECG monitoring and interpretation. (41-8)

RT 160 Transition-Technician to Therapist 2 Sem Hrs
Completion of an AMA-approved Respiratory Therapy Technician Program within the last 2 years or completion of a Technician program with at least one year of work experience in the last 2 years; or certification (CRTT) by the National Board of Respiratory Care with at least 3 years of work experience in the last 5 years. Must be taken concurrently with RT 235. Emphasis will be upon material in RT 116, 133, and 134. Successful completion of this course and RT 235 will enable technicians to enter the second year of the therapist program. Will only be offered if space in the program permits. (30-0)

RT 207 Cardiopulmonary Pathophysiology 3 Sem Hrs
Prerequisites: RT 150 or RT 105 and RT 160 for the transition student. RT 211, RT 212, RT 214, RT 216, RT 229, RT 226 must be taken concurrently. Presents the cause, clinical presentation, and treatment of common cardiopulmonary diseases. (45-0)

RT 211 Advanced Cardiopulmonary Physiology 3 Sem Hrs
Prerequisites: RT 150 or RT 150 and RT 160 for the transition student. RT 207, RT 212, RT 214, RT 216, RT 229, & RT 226 must be taken concurrently. Presents the study of advanced cardiopulmonary physiology as the basis for evaluation and treatment of cardiopulmonary pathophysiology. (45-0)

RT 212 Advanced Ventilator Management 2 Sem Hrs
Prerequisites: RT 150 or RT 150 and RT 160 for the transition student. RT 207, RT 211, RT 214, RT 216, RT 229, & RT 226 must be taken concurrently. Presents the advanced theory and application of skills required to monitor, manage, and wean patients on mechanical ventilation. (26-8)

RT 214 Seminar I 1 Sem Hr
Prerequisites: RT 150 or RT 150 and RT 160 for the transition student. RT 207, RT 211, RT 212, RT 216, RT 226, & RT 229 must be taken concurrently. Provides an opportunity to research, write a report, and make an oral presentation on an area of interest in the field of respiratory care. (15-0)

RT 216 Rehabilitation and Home Care 1 Sem Hr
Prerequisites: RT 150 or RT 150 and RT 160 for the transition student. RT 207, RT 211, RT 212, RT 214, RT 229 and RT 226 must be taken concurrently. Presents the theory and application of skills required to provide pulmonary rehabilitation and home care. (13-4)

RT 226 Clinical Education III 6 Sem Hrs
Prerequisites: RT 150 or RT 150 and RT 160 for the transition student. RT 207, RT 211, RT 212, RT 214, RT 216, and RT 229 must be taken concurrently. Provides the opportunity to review the theory and practice clinical skills. (0-240)

RT 229 Clinical Ed 3 Seminar 1 Sem Hr
Prerequisites: RT 150 or RT 150 and RT 160 for the transition student. RT 207, RT 211, RT 212, RT 214, RT 216, and RT 226 must be taken concurrently. Provides the opportunity to integrate the classroom and clinical activities of the concurrent courses in a seminar format. (15-0)

RT 231 Maternal and Neonatal Respiratory Care 2 Sem Hrs
Prerequisite: RT 207, 211, 212, 214, 216, 226 and 229. RT 234, RT 240, RT 244, RT 246 must be taken concurrently. Presents the theory and application of maternal and neonatal respiratory care. Emphasizes fetal development, the birth process, cardiopulmonary changes following birth, and neonatal cardiopulmonary pathophysiology. (27-6)

RT 234 Seminar II 1 Sem Hr
Prerequisites: RT 207, RT 211, RT 212, RT 214, RT 216, RT 226 and RT 229. RT 231, RT 240, RT 244 and RT 246 must be taken concurrently. Provides an opportunity to research, write a report, and make an oral presentation on any area of interest in the field of respiratory care. (15-0)

RT 240 Advanced Respiratory Care Pharmacology 3 Sem Hrs
Prerequisite: RT 207, RT 211, RT 212,RT 214, RT 216, RT 226 and RT 229. RT 231, RT 234, RT 244 and RT 246 must be taken concurrently. Presents the theory and application of advanced respiratory care pharmacology as it relates to cardiopulmonary pathophysiology. (45-0)

RT 244 Optional Rotation/Special Project 1 Sem Hr
Prerequisites: RT 207, RT 211, RT 212, RT 214, RT 216, RT 226 and RT 229. RT 231, RT 240, RT 234, and RT 246 must be taken concurrently. Provides an opportunity to choose a rotation or special project to meet their personal goals in the field of respiratory care. Emphasizes the design, completion, and summarization of the project. (15-0)

RT 246 Comprehensive Clinical Education 8 Sem Hrs
Prerequisites: RT 207, RT 211, RT 212, RT 214, RT 216, RT 226, and RT 229. RT 231, RT 234, RT 240, and RT 244 must be taken concurrently. Provides the opportunity to apply all of the knowledge and skills presented in the program. Emphasizes the integration of all levels of knowledge and skills as a prelude to functioning as a graduate respiratory therapist. (0-320)

RT 290-299 Special Projects in Respiratory Care

Interdisciplinary Science

SCI 099 Foundation For Science 4 Sem Hrs
Develops competency in content and skills in college science classes and intended for students unsure of adequacy of preparation for college science. Includes use of scientific method, measurement practices in metrics, communicating and presenting scientific data, classification techniques, spatial relationships, and maps. Presents methods for improving science study skills, note taking, data recording and analysis. (Cannot be counted toward Natural Science or lab credit.) Does not earn credit toward graduation. Credit may be earned in SCI 099 or in SCI 100 but not both. (75-15)

SCI 249 Scientific Research Development 1 Sem Hr
Prerequisite: Faculty permission based on the student's science background and knowledge. Explores the process of developing and refining a scientific question as a basis for scientific experimentation. Identifies an area of scientific interest, background knowledge in the field and research methods and produces a research proposal that involves research and development, rationale for industry, models of data that will be produced, budgetary evaluation, materials needed, time required, equipment to be used and safety considerations. Benefits all science majors in Biology, Chemistry, and Engineering. (15-0)

SCI 250 Research Project In Science 2-6 Sem Hrs
Prerequisite: SCI 249 and instructor permission. Provides the opportunity to carry out original scientific research, integrating critical thinking with scientific principles and professional skills. Requires completion of a final research report which includes problem identification, procedure documentation, data analysis, and conclusions. Evaluation will be handled by the faculty and/or a team of experts. The minimum requirement is two credits. Beneficial to all science majors in Biology, Chemistry, and Engineering. (0-30)

SCI 290-299 Special Projects in Interdisciplinary Science

SCI 299 Food Science and Nutrition 3 Sem Hrs
Recommended prerequisite: BIO 111 and CHM 111 recommended. Introduces the fundamental concepts in digestion and metabolism at the cellular, organ system and organismal levels (seeds, yeast, gold fish, and plants). Reviews and implements laboratory research techniques involved in quantitative analysis of food ingredients. Explores the following topics: Enzyme kinetics, balanced/healthy diet, physical fitness, popular weight loss programs, and food diversity and society. Includes a field trip to local restaurants. (45-0)

Skilled Trades

SKCA 114 Introduction to CAD 3 Sem Hrs
Prerequisites: ARC 105; or DRF 121; or SKDR 101. CST 103 suggested or basic knowledge of the Windows Operating System. Introduces 2D CAD drawing, including basic drawing and editing commands as related to architectural, mechanical and civil applications. Studies CAD system interface, hardware, a current operating system, file management techniques, creating templates, creating and modifying geometry, dimension and text styles, block and external reference insertion, model space/paper space layouts, and plotting techniques. Credit may be earned in only one of ARC 114 or CAD 114 or SKCA 114. (45-15)

SKCA 120 Introduction to CAM 3 Sem Hrs
Prerequisites: DRF 104 or DRF 105 or SKDR 101; and CST 103 or CAD 114; or permission of instructor. Introduces the basics in computer geometry creation including line, arc, curve creation and manipulation. Gives a foundation to build on advanced CAD/CAM techniques. Instructs students on file transfer systems from CAD to CAM with emphasis on proper drawing techniques, including file type-save-transfer. Projects will be drawn, checked and created on appropriate equipment. Shows links between CNC machines on the shop floor and their relationship with the design process. Generates code from created drawings to be run on Computer Numerical Controlled equipment. Credit may be earned in CAD 120 or SKCA 120 but not in both. (30-30)

Skilled Trades

SKCN 162 Computer Numerical Control Theory 4 Sem Hrs
Prerequisites: MS 181 or SKTR 181, and SKMA 103 or MTH 103 or MT 110 or Instructor permission. Uses various methods, such as a text editor, machine control unit, and CAD/CAM (MasterCam) to produce alpha-numeric code (G-Code) which will run CNC machinery. Uses blueprints to problem solve and program both point-to-point and complex contours on machining centers and turning centers. Discusses machines with 2, 3, 4, and 5 axis controls. Emphasizes common formats of programming. Discusses machine tool controllers including HAAS, Funac, and Okuma. Includes hands-on activities. Credit may be earned in either CNC 162 or SKCN 162 but not in both. (40-20)

SKCN 216 CNC with Machining Applications 4 Sem Hrs
Prerequisites: CAD 120 or SKCA 120, MS 181 or SKTR 181, CNC 162 or SKCN 162, MS 182 or SKTR 182. Emphasizes the programming methodology for producing quality parts using the CNC machines. Discusses conversational programming language with secondary emphasis on tooling setups, part setups, and machining. Utilizes horizontal and vertical machining center for program testing. Credit may be earned in SKCN 216 or CNC 216 but not both. (0-60)

SKCN 225 Mastercam 4 Sem Hrs
Prerequisites: CAD 120 or SKCA 120, and CNC 162 or SKCN 162 or instructor permission. Teaches the advanced concepts of CNC programming for lathe work, mill 3 and 4 axis work, and/or other machinery, shop floor programming, and the principles of CNC operations. Emphasizes various machining operations, accompanied by demonstrations, student programming, and hands-on setup and machine operation. Emphasizes the creation of error free part programs using the MASTERCAM programming language, including part geometry, tool path, and debugging with secondary emphasis on the downloading of a program to the turning center, mill, machining center/system, or wire EDM. Credit may be earned in either SKCN 225 or CNC 225 but not in both. (15-45)

SKCN 285W Computer Numerical Control Capstone 4 Sem Hrs
Prerequisites: Permission of instructor . Demonstrates application-based activities that tie a majority of your previous manufacturing learning together. Incorporates skills learned in drafting, CAD, manual and CNC machine tools, and CAM to complete the capstone project. Applies critical thinking and spatial analysis abilities in the processing of this project. Applies the fundamentals of ID tool design and tool making, fixture building, and geometric dimensioning and tolerancing (GD&T). Credit may be earned in CNC 285 or SKCN 285 but not in both. (30-60)

Skilled Trades

SKCT 101 Industrial Millwright Procedures 3 Sem Hrs
Prerequisite: SKDR 101. A course for millwrights emphasizing blueprint reading, layout of typical industrial construction, equipment, and safety and guarding. Topics covered include plan and elevation prints of building footings and foundation, mechanical services, equipment and machinery foundations, ventilation systems, catwalks, decking, platforms, and various conveying systems. (45-0)

SKCT 102 Building Materials 3 Sem Hrs
To learn development, properties, and composition of various building materials. To develop perception for economical and appropriate application of building materials. To learn various sources of technical data about residential and industrial building materials. To develop skills of building material application. (45)

SKCT 105 Building Site Surveying 3 Sem Hrs
Prerequisite: MATH LEVEL 4. Studies fundamentals of site analysis, including utility services, metes and bounds, solar access and restrictions. Teaches elements of surveying including use of instruments, leveling, measurement of angles and distances, contours, location of site elements and development of a site plan from field data. Interprets engineering surveys, introduces landscape design, and studies computer aided design examples. Credit may be earned in ARC 221 or SKCT 105, but not in both. (45-0)

SKCT 106 Concrete and Foundations 3 Sem Hrs
Prerequisite: SKCT 102. Studies practical methods and procedures of preparing and setting concrete forms for such areas as basement floors, garage floors, driveways, sidewalks, patios, etc. (45-15)

SKCT 111 Construction Print Interpretation 3 Sem Hrs
Instruction in this course includes trade terminology and description of the various views of working drawings, pictorial drawings, and the basic procedures in development of these drawings. Also included is the interpretation of specifications and job information as they pertain to construction and layout. Credit may be earned in either SKCT 111 or RC 101 but not both. (45)

SKCT 114 Framing Square 4 Sem Hrs
Uses the framing square and speed square in construction. Credit may be earned in either SKCT 114 or RC 114 but not in both. (60-0)

SKCT 201 Rough and Outside Framing 4 Sem Hrs
Prerequisite: SKCT 114 and RC 104. Provides instruction in the techniques of construction used in all phases of framing and exterior finishing. Credit may be earned in either SKCT 201 or RC 201 but not in both. (30-60)

SKCT 204 Inside Finishing and Hardware 4 Sem Hrs
Prerequisite: SKCT 114. Includes principles of interior construction, joinery and installation, and finishing of all types of interior trim. Credit may be earned in either SKCT 204 or RC 204 but not in both. (45-45)

SKCT 205 Cabinet Making and Millwork 5 Sem Hrs
Prerequisite: SKCT 204. A study is made of the construction of, the placement of, and installation procedures of cabinets used in residential and commercial building. (45-60)

Skilled Trades

SKDR 101 Blueprint Reading 3 Sem Hrs
Introduces blueprint symbols and their meaning as used in a manufacturing operation. Provides instruction and practice to develop skill in spatial visualization, sketching, orthographic projection, including auxiliary and sectional views, detail and assembly drawings, dimensioning and tolerances, title blocks, material lists, and notes for use by various manufacturing personnel and American National Standards Institute (ANSI) conventional drafting and dimensional standards. Credit may be earned in DRF 121 or SKDR 101 but not both. (45-0)

SKDR 111 Drawing II 3 Sem Hrs
Prerequisite: SKDR 101. A continuation of SKDR 101. Topics include multiview and pictorial sketching and drawing, sections drawing, dimensioning and tolerancing. (45)

SKDR 121 Descriptive Geometry 3 Sem Hrs
Prerequisite: SKDR 111. Topics include orthographic projections, primary auxiliary views and lines, planes, successive auxiliary views, piercing points, intersection of planes, and angle between planes. (45)

SKDR 128 Geometric Tolerancing 2 Sem Hrs
Prerequisite: SKDR 111. Primary emphasis is on geometric symbols used in place of written notes on industrial drawings including datums, symbols, and other items tolerancing to the geometry of the part. Credit may be earned in either SKDR 128 or DRF 128 but not both. (30)

SKDR 130 Tool and Die Design 4 Sem Hrs
Prerequisite: SKDR 111. Topics include: design of jigs and fixtures, design of gaging mechanisms, design of automatic tooling, machining cost calculations. The student will use this data to make class presentations with questions and answer sessions. (60)

SKDR 131 Pattern Design I 3 Sem Hrs
Prerequisite: SKDR 111. Course covers terms and definitions of pattern design. Students will learn how to make calculations from tables and drawing, estimate weights from pattern charts and materials codes, and sketch and detail typical pattern designs. (45-0)

SKDR 133 Fundamentals of Tooling Design 4 Sem Hrs
Prerequisite: SKDR 111 or SKCA 120. Identifies terms and definitions of tooling design. Designs tooling used in the pattern and tool and die industries using C.A.D. Calculates and designs gigs, fixtures, stampings, patterns, or coreboxes and the appropriate systems essential to their production. Completes C.A.D. design and C.N.C. machining of assigned projects. (0-60)

SKDR 141 Pipe and Tube Isometrics 3 Sem Hrs
Sketching course for industrial pipefitters includes all mensurations for layout and construction. (45)

Skilled Trades

SKEL 101 Basic Electronics 6 Sem Hrs
Prerequisite: SKMA 113. The first course in a series to train electrician apprentices in the theory and application of electronics to industrial control systems. Basic electronic devices will be discussed, along with how they work and their electrical characteristics. Simple electronic circuits will be set up on trainers to illustrate the application of the devices. Troubleshooting techniques and basic test instruments will be discussed and used. (90)

SKEL 102 Industrial Electronics 4 Sem Hrs
Prerequisite: SKEL 101. The second course in a series to train electrician apprentices in the theory and application of electronics to industrial control systems. Application of basic electronic devices to industrial control systems will be discussed. Major topics will be digital solid state logic and power control using SCR's and TRIAC's. Troubleshooting techniques and basic test instruments will be discussed and used. (60-0)

SKEL 103 OSHA Safety and Michigan Electrical Laws 2 Sem Hrs
Introduces students to Occupational Safety and Health Standards (OSHA), and Michigan Electrical Laws. Provides a basic understanding of the OSHA rules and regulations, and how to locate and apply published OSHA information. Covers requirements for compliance with the State of Michigan Model Training Program for related Technical Instruction (Referred to as RTI), for Apprentice Electricians as approved by the State Electrical Board on October 2, 2009. (30-0)

SKEL 104 Electric Substation Worker Orientation 2 Sem Hrs
Provides participants with a basic understanding of a career as an electric substation worker: installing, maintaining, and troubleshooting electrical substation equipment comprised of power transformers, circuit breakers, switches, conductors, insulators, and instrumentation & controls. (18-12)

SKEL 105 Electrical Utility/Lineworker Orientation 2 Sem Hrs
Orients student to basic requirements of electrical utility/lineworker career. Requires application of safety protocol. Includes mandatory classroom and outside activities. Requires use of safety equipment and practice of all activities. (15-15)

SKEL 111 Conventional Controls 3 Sem Hrs
Prerequisite: SKMA 111. Develops competencies in reading basic electrical blueprints and troubleshooting through familiarization of basic control devices. Develops visual and analytical relationships between the device and the corresponding blueprint configurations and symbols. Discusses and applies basic troubleshooting skills using the electro-pneumatic laboratory simulation training board. (45-0)

SKEL 121 Advanced Controls I 5 Sem Hrs
Prerequisite: SKEL 102. Topics include: vacuum and vapor tubes, resistance welding controls, induction heating, motors, inverters, polyphase rectifiers, op-amps transducers, instrumentation, closed loop controls, servo systems, temperature controls, troubleshooting. (75)

SKEL 122 Advanced Controls II 4 Sem Hrs
Prerequisite: SKEL 121. Present students with basic concepts and hands-on experience with programmable digital control systems. Emphasis placed on hardware, program (software) entry, R-T-C math, documentation, trouble-shooting, communication links (generic) and peripheral equipment. (60-0)

SKEL 131 AC/DC Machinery 3 Sem Hrs
Prerequisite: SKMA 113. This course is one in a series of courses on conventional industrial controls. Topics include physics of electromotive forces, armature reaction, induction, DC generator types, AC generators, DC motors, DC motor starters, transformers, AC motors and variable speed drive systems. (45-0)

SKEL 134 Lineworker Climbing Techniques 5 Sem Hrs
Prerequisite: Current validation for Lineworker Level I program. Corequisites: SKEL 136 and SKEL 138. Provides participants with the basic knowledge and pole climbing skills necessary to progress through the Lineworker/Electrical Utility Program. Student is responsible for climbing equipment, tools, and foul weather gear as required. Cost may exceed $200. (15-63)

SKEL 136 Utility Worker Training 5 Sem Hrs
Prerequisites: Current validation for Lineworker Level I program. Corequisites: SKEL 134 and SKEL 138 . Provides participants with the basic Ground Worker/Utility Worker knowledge and skills necessary to progress through the Lineworker/Electrical Utility Program. (15-63)

SKEL 138 Lineworker Level I 6 Sem Hrs
Prerequisites: Current validation for Lineworker Level I program. Corequisites: SKEL 134 and SKEL 136. Provides hands-on experience with energized equipment with voltages up to 240V. (30-74)

SKEL 141 Industrial Electrical Codes & Standards 3 Sem Hrs
Prerequisite: SKEL111 AND SKEL131. Develops competency in the application of the National Electrical Code (NEC) and its relationship to industry and some residential wiring as written by the National Fire Protection Association (NFPA). Includes the Joint Industrial Council (JIC) standards for industrial electrical mass production operations and equipment. Emphasizes safety regarding hazardous locations, electrical grounding, ground faults, fusing, motor circuit protection and controls as well as electro-mechanical and hydraulic devices. (45-0)

Skilled Trades

SKET 106 Applied Electricity I 3 Sem Hrs
Prerequisite: MATH LEVEL 4. Covers basic fundamentals of electricity that include introductory schematic symbols and basic electrical circuits, Ohms law, power formulas, series and parallel circuit rules, combination circuits, magnetism, capacitance, inductance and reactance in electrical DC and AC circuits. Applies the above fundamentals to electrical circuits and electrical schematics; calculate voltage, current, resistance and wattage as they apply in an electrical circuit; interpret electrical problems on the refrigeration or heating unit. Uses the multi meter as an Ohmmeter, as a voltmeter, and as an amp meter. Credit may be earned in SKET 106 or RHA 140 but not in both. (45-0)

SKET 107 Applied Electricity II 2 Sem Hrs
Prerequisite: SKET 106 or permission of Technical, Trades, and Manufacturing Division Office. Furthers the study of electrical applications. Provides an in-depth study of frequency, peak-effective-average voltage, inductance, capacitance, three phase power, resistive circuits, coils, capacitors, lost power, and power factor correction. (30-0)

SKET 162 Industrial Robotics I 3 Sem Hrs
Prerequisites: SKET 107 and SKMT 101. Studies modern industrial robotic systems. Introduces the operation, use and safety of industrial robots. Discusses feedback mechanisms, actuators, sensors, power supplies, micro-controllers, P.C. computer control and programming. Emphasizes a hands-on approach to system analysis, critical thinking, solution to open-ended problems, computer usage, and teamwork. Credit may be earned in SKET 162 or ET 162 but not both. (15-30)

SKET 164 Robotics Electrical Service & Troubleshooting 3 Sem Hrs
Prerequisites: SKET 107 and SKMT 101. Identifies the electrical component of robots, theory of operation. Introduces proper troubleshooting procedures for the robot controller and manipulator. Approximately 50 percent of the course will be hands-on troubleshooting of actual robot system and controller. Credit may be earned in SKET 164 or ET 164 but not both. (15-30)

SKET 262 Industrial Robotics II 3 Sem Hrs
Prerequisite: SKET 162. Emphasizes programming, advanced manipulation, grip load instructions, velocity, and acceleration instruction, offline editing, handling errors, and robot configuration. Discusses programming concepts and structures in the C+ programming language, industry-like applications and system integration projects. Emphasizes a hands-on approach to system analysis, critical thinking, solutions to open-ended problems, computer usage, and teamwork. Credit may be earned in SKET 262 or ET 262 but not both. (15-30)

Skilled Trades

SKGM 110 Automotive Electronics Service 4 Sem Hrs
Introduces the operation, maintenance, and service of battery, charging, starting systems and GM electrical and electronic systems. Credit may be earned in AGM 110 or ACD 110 or SKGM 110 or AGM 131 but not in more than one. (40-40)

SKGM 112W Engine Service 6 Sem Hrs
Introduces the operation, maintenance, and service of GM engines for mechanical performance. Stresses proper repair techniques and diagnosis of engine noises. Credit may be earned in AGM 112 or ACD 112 or SKGM 112 or AGM 141 but not in more than one. (45-75)

SKGM 114 Brakes, ABS, TCS Service 5 Sem Hrs
Introduces the operation, maintenance, and service of GM base brakes, anti-lock and traction control. Presents general auto lab equipment operation and stresses safety. Credit may be earned in AGM 114 or ACD 114 or SKGM 114 or AGM 132 but not in more than one. (40-60)

SKGM 142 Electronic Engine and Emission Controls Service 9 Sem Hrs
Prerequisite: SKGM 112. Introduces the operation, maintenance, and service of GM engines for drivability performance. Stresses proper repair techniques and diagnosis of engine drivability problems. Credit may be earned in SKGM 142 or AGM 142 or ACD 142 but not in more than one. (81-144)

SKGM 210 Body Electronics Service 3 Sem Hrs
Prerequisite: SKGM 110. Stresses the operation, diagnosis, and service of GM body electrical and electronics systems. Credit may be earned in AGM 210 or SKGM 210 or ACD 210 or AGM 241, but not in more than one. (30-30)

SKGM 212W Suspension System Service 7 Sem Hrs
Introduces the operation, maintenance, and service of GM steering and suspension systems. Credit may be earned in AGM 212 or SKGM 212 or ACD 212 or AGM 133 but not in more than one. (56-84)

SKGM 214 Heating/Air Conditioning 5 Sem Hrs
Introduces the operation, maintenance, and service of GM Heating, Ventilation, and Air Conditioning systems and their controls. Credit may be earned in AGM 214 or SKGM 214 or ACD 214 or AGM 233, but not in more than one. (50-50)

SKGM 216 Driveline Service 6 Sem Hrs
Prerequisite: SKGM 143. Studies GM passenger car and light truck clutch, manual transmission, driveshaft, differential, transaxle, front driving axle, and transfer case terminology, operation, and diagnosis. Develops skills in diagnosis, adjustment, and repair of clutches, manual transmissions, driveshafts, differentials, transaxles, front driving axles, and transfer cases. Credit may be earned in AGM 216 or SKGM 216 or ACD 216 or AGM 231 but not in more than one. (60-60)

SKGM 218W Automatic Electronic Transmission Service 8 Sem Hrs
Introduces the operation, maintenance, and service of GM electronically controlled transmissions. Credit may be earned in AGM 218W or SKGM 218W or ACD 218W or AGM 232, but not in more than one. (80-100)

Skilled Trades

SKMA 096 Pre-Algebra 2 Sem Hrs
Prerequisite: MATH LEVEL 2. Provides preparation for algebra. Includes fractions, decimals, integers, ratios, and percentages with an introduction to equations, graphs, and functions. May receive credit in only one of the following: MTH 096 or SKMA 096 or SKMA 101 or MTH 106. Does not earn credit toward graduation. (30-0)

SKMA 097 Algebra I 3 Sem Hrs
Prerequisite: MATH LEVEL 3. Includes natural number, integers, first-degree equations and inequalities, special products, factoring, rational expressions and equations, graphs, and linear systems, exponents, and quadratic equations. May receive credit in only one of the following: MTH 107 or MTH 097 or SKMA 097 or SKMA 102. Does not earn credit toward graduation. (45-0)

SKMA 099 Pre-Apprenticeship Basic Skills 2 Sem Hrs
Explores basic mathematics principles. Discusses whole numbers, fractions, decimals, percentages, metric system, rational numbers, polynomials, equations, exponents, and radicals. Reviews algebra, geometry and graphical math. Introduces spatial skills and blue print reading. Examines orthographic projections, three viewdrawings, missing line(s), point and surface identification, fitting pieces together, rotated/flipped and cube unfolding and folding. Includes mechanical comprehension. Analyze physical principles, simple machines, vectors, hydraulics, liquids, density and circular motion. Completion of this course does not guarantee an apprenticeship. Does not earn credit toward graduation. (30)

SKMA 103 Applied Geometry and Trigonometry 4 Sem Hrs
Prerequisite: Math Level 4. Includes the following geometry topics: angles, triangles, polygons, circles, prisms, cylinders, and cones. Includes right-triangle trigonometry, radian measure, oblique-triangle trigonometry, and graphs of trigonometric functions. May receive credit in only one of the following: SKMA 103, MTH 103, or MT 110. (60-0)

SKMA 111 Applied Integrated Electrical Math I 6 Sem Hrs
Prerequisite: MATH LEVEL 3. Develops competency in the application of mathematics principles to electrical circuit configurations. Includes mathematical equations and formulas necessary to solve D.C. circuit applications applied to electrical, mechanical and process industrial control equipment. Covers non-mathematical theory related to electricity and electronics. (90-0)

SKMA 112 Applied Integrated Electrical Mathematics II 3 Sem Hrs
Prerequisite: SKMA111. Develops further competency in the application of mathematics principles to electrical circuit configurations including DC and AC circuit applications. Includes trigonometry as applied to electrical-circuit theory and non-mathematical theory related to electricity and electronics. (45-0)

SKMA 113 Applied Integrated Electrical Math III 3 Sem Hrs
Prerequisite: SKMA 112. This course is the third in a series of electrical mathematics and circuit analysis intended to give an electrical apprentice the necessary background to maintain and service industrial control equipment. It will include a study of capacitance, capacitive reactance, vectors, phasers. series AC circuits, power factor and three-phase systems. Trigonometry and pythagorean mathematics will be used in the computation of the phase relationships of the various quantities studied. (45)

Skilled Trades

SKMT 111 Metals 3 Sem Hrs
Prerequisite: SKMA 097 or MTH 097 with a grade of "C" or better. Distinguishes temperature measurement by color, hardness, strengths, fatigue properties, steels, plastics, cast iron, copper, brass bronze, aluminum, their applications with respect to wear, corrosion, and design. (45-0)

SKMT 112 Ferrous Heat Treatment 2 Sem Hrs
Designed to acquaint students with various forms of heat treatment applied to plain carbon steels, cast iron, alloy tool steel, and stainless steel. Course will also include steel classification and machinability. (30)

SKMT 151 Power Transmission 3 Sem Hrs
Prerequisite: MATH LEVEL 5: Identifies and explains safety rules, regulations, test procedures, installation, removal, and operation of belt drives, chain drives, mechanical couplings, and mechanical drive systems. Demonstrates the concepts of shaft alignment. Credit may be earned in SKMT 151 or MT 151 but not both. (30-15)

SKMT 161 Industrial Rigging and Safety 2 Sem Hrs
Prerequisite: MATH LEVEL 3: Studies the methods of safe transfer of loads and provides comprehensive easy-to-understand and reliable information of the entire field of rigging operations. Discusses techniques and methods to accomplish the rigger's task with the greatest safety for all of the workers on a project, as well as for passers-by and the public in general. Identifies sources of, organizes, and describes safety rules, regulations and practices related to job-site hazards, personal protective equipment, aerial work, hazard communication, and electrical safety. Credit may be earned in MT 161 or SKMT 161 but not both. (15-15)

SKMT 171 Sheetmetal Layout I 3 Sem Hrs
Analyzes and develops geometrical structures, intersections by radial and triangulation methods of sheet metal layout, the drawing of development layouts, and the forming of actual models with sheet metal. Credit may be earned in SKMT 171 or RHA 142, but not both. (35-10)

SKMT 172 Sheetmetal II 3 Sem Hrs
Prerequisite: SKMT 171. Continuation of Sheetmetal I. Projects involve fabrication of complex pieces to actual specification using tools common to the trade. (45)

SKMT 173 Sheetmetal III 3 Sem Hrs
Prerequisite: SKMT 172. Continuation of Sheetmetal Layout II. Emphasis placed on the layout and construction of patterns found in the industrial plant. Special projects will be assigned. (20-25)

SKMT 220 Hydraulics and Pneumatics I 3 Sem Hrs
Prerequisite: MATH LEVEL 4. Focuses on the operation and function of fluids, pumps, compressors, valves, cylinders, motors, filters, and other components used in the power and control of machine tools, construction and agricultural equipment. Uses algebraic formulas, charts, and graphic symbols for design and diagnosis of basic circuits. Credit may be earned in only one of SKMT 101, SKMT 220 or MT 220 (30-30)

SKMT 222 Hydraulics and Pneumatics II 3 Sem Hrs
Prerequisite: SKMT 220. Advanced course in fluid power designed for machine repair, pipefitters and plumber trades. Analyzes common hydraulic and pneumatic components and circuits. Includes building of machine tool circuits and troubleshooting special systems such as hydrostatic transmissions and electrohydraulic servos, and ladder diagramming of pneumatic control circuits. Covers mathematics and graphic symbols used in troubleshooting. Credit may be earned in SKMT 102 or SKMT 222, but not both. (45-0)

SKMT 231 Fundamentals of Foundry Technology 3 Sem Hrs
Prerequisite: Foundry experience or permission of department. Provides an overview of all the components that make up a modern foundry. Participants will become familiar with the interrelationship between the metallurgy, melting, production engineering, core, molding, finishing, and reliability and quality control departments. Special emphasis is placed on how each department is dependent upon the other and what affect each has on the production of a quality product at a competitive cost, through the use of a statistical process control. (45)

SKMT 241W Introduction to Monitoring Controls 3 Sem Hrs
Prerequisite: MATH LEVEL 4. Focuses on the theory of planned/ predictive maintenance strategies and the familiarization of the technological tools available to support those strategies. Presents the theory and application of each of the technologies but is not intended to prepare for certification in any of the technologies discussed above. (45-0)

Skilled Trades

SKOT 191 Machine Controls 1 3 Sem Hrs
Present students with mechanical background the essentials of wiring and troubleshooting controls in production machinery. Studies AC/DC circuits, fundamentals of hydraulics and pneumatics as they pertain to machine control circuitry. Emphasizes relay ladder diagrams, simple debugging and nomenclature necessary to communicate with design engineers and other trades in the installation and troubleshooting of panel wiring. (45-0)

SKOT 192 Machine Controls II 3 Sem Hrs
Prerequisite: SKOT 191. Machine Controls II is a continuation of Controls I with special emphasis placed on diagnostic troubleshooting techniques. Primary objective of the course is to enable maintenance personnel to discuss machine functions or malfunctions with machine and control system designers. The course will also benefit toolmakers and machine builders to understand the overall operation of complex machinery they build and/or assemble. (45-0)

Skilled Trades

SKPH 101 Applied Physics 4 Sem Hrs
Prerequisite: Math Level 5. Introduces the basic physical principles involving mechanics, fluids, heat, conservation of energy, electricity, and sound. (60-30)

Skilled Trades

SKPT 101 Industrial Piping 4 Sem Hrs
Basic sanitation principles, terminology, materials classification, drainage systems, waste disposal system, pipe sizing and layout. Industrial piping situations involving gasoline, acid plating solutions, gases, safety, code requirements. (60)

SKPT 106 Pipefitters Handbook 3 Sem Hrs
Prerequisite: SKMA 097 or MTH 097 with a grade of "C" or better. Explores mathematical calculations including geometry and trigonometry. Includes: pipe bends, linear expansion of piping, tank capacities, leverage, methods of layout angles, pipe-fitting calculations, pipe-welding layout, and reference tables. (45-0)

SKPT 111 Stationary Boiler Engineering I 2 Sem Hrs
Orientation to power plant operations including boiler safety rules and regulations. General operating procedures for various types of boilers, uses and types of fuels and their sources; elementary chemistry of combustion. Credit may be earned in either SKPT 111 or CVI 1037 but not both. (30)

SKPT 112 Stationary Boiler Engineering II 2 Sem Hrs
Prerequisite: SKPT 111. This course includes boiler settings, combustion equipment, operation and maintenance of boilers, pumps, reciprocating steam engines, valve operating mechanisms. Credit may be earned in SKPT 112 or CVI 1038 but not in both. (30)

SKPT 113 Stationary Boiler Engineering III 2 Sem Hrs
Prerequisite: SKPT 112. Automatic boiler operation. Forced and induced draft systems. Steam turbines and auxiliaries, auxiliary steamplant equipment, cooling towers, boiler feed water treatment and heating. Credit may be earned in SKPT 113 or CVI 1039 but not in both. (30)

SKPT 114 Stationary Boiler Engineering IV 3 Sem Hrs
Prerequisite: SKPT 113 or permission of department. This course includes air compressors of the following types: centrifugal, rotary screw, large reciprocating compressors and drives; boiler feed water chemical treatment. Credit may be earned in either SKPT 114 or CVI 1040 but not both. (45-0)

SKPT 121 Fundamentals of Refrigeration & A/C 3 Sem Hrs
Examines the physical, gas, and chemical laws of refrigeration. Develops an understanding of the theory of heat, temperatures, pressures of gases and thermodynamics. Analyzes basic refrigeration cycle and components such as vacuum pumps, gauges, and (PT) Pressure Temperature Charts. Develops an understanding of units on safety and EPA Refrigerant Certification. Credit may be earned in SKPT 121 or in RHA 121, but not in both. (35-10)

SKPT 122 Refrigeration and A/C Service I 3 Sem Hrs
Prerequisites: SKPT 121. Focuses on concepts of common types of domestic refrigerators, dehumidifiers, and portable air conditioners. Develops an understanding of special references involving the essentials of construction of complete refrigeration systems. Presents theory and principles underlying repairing refrigeration appliances and practical shop work through classroom demonstrations and lab experiments. Credits may be earned in either SKPT 122 or RHA 122, but not in both. (35-10)

SKPT 123 Commercial Refrigeration Flow Controls I 3 Sem Hrs
Prerequisite: SKPT 122. Develops an understanding of basic skills necessary for servicing of commercial units such as walk-in coolers, reach-ins, display cases, and commercial icemakers. Analyzes refrigeration flow-control components, system components, and piping practices. Credit may be earned in either RHA 123 or SKPT 123 but not in both. (35-10)

SKPT 124 Refrigeration and A/C Service II 3 Sem Hrs
Prerequisite: SKPT 122. Develops understanding and operational skills in trouble shooting domestic refrigeration and air conditioning systems. Focuses on electrical components and system parts in frost-free, conventional and cyclematic units, and portable air conditioning units. Credit may be earned in either SKPT 124 or RHA 124 but not in both. (35-10)

SKPT 126 Heating System Fundamentals 3 Sem Hrs
Focuses on the principles of heating systems, types of fuels, electric heating, venting for combustion furnaces, and the methods of correct duct design through lecture and demonstration. Develops skills and basic knowledge of furnace components, testing, and operations. Reviews indoor air quality enhancements and basic mechanical codes for heating and gas piping installations. Credit may be earned in RHA 135 or SKPT 126 but not in both. (35-10)

SKPT 225 Commercial Refrigeration II 3 Sem Hrs
Prerequisite: SKPT 123. Develops additional skills and understanding in the servicing of commercial units such as walk-in coolers, reach-ins, display cases, and commercial icemakers. Focuses on electrical systems and diagrams. Analyzes single-phase systems and three-phase systems. Credit may be earned in either SKPT 225 or RHA 225, but not in both. (35-10)

Skilled Trades

SKQA 140 Measurement Systems 3 Sem Hrs
Introduces skill development in measurement analysis and measurement systems management. Emphasizes industrial measurement issues involving mechanical gauging and inspection instruments. Determines gauge and dimensional relationships along with describing the various types of industrial gauges and their usage. Explores gauge management issues and ISO 9000 requirements. Credit may be earned in either QA 140 or SKQA 140 but not in both. (45-0)

Skilled Trades

SKTR 181W Machine Tools I 4 Sem Hrs
Prerequisite: MS 113 or instructor permission. Introduces the manufacturing facility. Utilizes safety, materials, hand tools, precision instruments, drill presses, lathes, mills, pedestal grinders, and saws. Studies fundamentals and procedures to provide an understanding of manufacturing processes. Demonstrates greater knowledge of machine tool practices and applies that knowledge to educate others. Credit may be earned in MS 181 or SKTR 181 but not both. (30-60)

SKTR 182 Machine Tools II 4 Sem Hrs
Prerequisite:MS181 or SKTR 181. Trains in the set up and operation of various metal working machines and construction of projects from engineering drawings. Trains in use of a variety of measuring instruments to take measurements of one thousandth of an inch or closer. Utilizes safety, milles, lathes, drill presses, saws, grinders, speeds and feeds to complete duty and task list. Credit may be earned in only one of: MS 130, SKTR 182, or MS 182. (45-45)

SKTR 183 Machinery's Handbook 3 Sem Hrs
Prerequisite: Prerequisite: SKTR 182 and SKMA 103, or MS 113 or MS 114 and MT 110 or MTH 103. Focuses on learning how to use and understand the Machinery's Handbook. Credit may be earned in either SKTR 183 or MS 120 but not both. (45-0)

Skilled Trades

SKWL 103 Introduction to Plasma, Carbon Arc, and Fuel Gas Cutting 3 Sem Hrs
Addresses safety in use of equipment for oxy-fuel gas welding and cutting, and equipment set-up. Includes oxy-fuel welding of flat strips 1/8" or less in thickness, and cutting, beveling, and piercing plate and pipe in laboratory experience. Credit may be earned in one of the following courses WELD 103, SKWL 101, SKWL 103 but in more than one. (30-15)

SKWL 104 Introduction to Shielded Metal Arc Welding 3 Sem Hrs
Addresses safety in arc welding, welding terms and definitions, electrode selection, and welding joints. Includes striking an arc, running beads, pad welding, and fillet welds in lab. Credit may be earned in either WELD 104 or SKWL 104 but not in both. (30-15)

Sociology

SOC 157 Projects in Community Service 1 Sem Hr
Student volunteers will be assigned in groups to assist agency staff in programs in the tri-city area working with populations of need. Students will be assigned on the basis of preferred interests. Supportive seminar will provide structure and supervision for an experience in the field of human services. Students may elect to take SOC 157, 158 and 159, however, only a total of three (3) credit hours can be earned in these courses. (15-30)

SOC 158 Projects in Community Service 2 Sem Hrs
Student volunteers will be assigned in groups to assist agency staff in programs in the tri-city area working with populations of need. Students will be assigned on the basis of preferred interests. Supportive seminar will provide structure and supervision for an experience in the field of human services. Students may elect to take SOC 157, 158, and 159, however, only a total of three (3) credit hours can be earned in these courses. (15-60)

SOC 159 Projects in Community Services 3 Sem Hrs
Student volunteers will be assigned in groups to assist agency staff in programs in the tri-city area working will populations of need. Students will be assigned on the basis of preferred interests. Supportive seminar will provide structure and supervision for an experience in the field of human services. Students may elect to take SOC 157, 158, and 159, however, only a total of three (3) credit hours can be earned in these courses. (15-90)

SOC 161 Projects in Cross-Cultural Learning 1 Sem Hr
Assigns student volunteers to either community agencies providing cross-cultural experiences or to an international work experience. Provides support seminars dealing with structure and background knowledge of the particular country involved. (A minimum of 30 hours volunteer placement is required). Credit may be earned in IHU 161 or SOC 161, but not both. (15-30)

SOC 162 Projects in Cross-Cultural Learning 2 Sem Hrs
Assigns student volunteers to either community agencies providing cross-cultural experiences or to an international work experience. Provides support seminars dealing with structure and background knowledge of the particular country involved. (A minimum of 60 hours volunteer placement is required.) Credit may be earned in IHU 162 or SOC 162, but not both. (15-60)

SOC 211HW Principles of Sociology - Honors 3 Sem Hrs
Prerequisites: LEVEL 4 READING and LEVEL 2 WRITING and instruction of the Honors Office, Introduces the scientific study of society and social behavior including the basic concepts, theories, and methods of sociology. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in SOC 211 or SOC 211H but not both. (45-0)

SOC 211W Principles of Sociology 3 Sem Hrs
Prerequisites: LEVEL 2 READING or LEVEL 2 WRITING. Introduces the scientific study of society and social behavior including the basic concepts, theories, and methods of sociology. Credit may be earned in SOC 211 or SOC 211H but not both.(45-0)

SOC 212W Social Problems 3 Sem Hrs
Prerequisite: SOC 211. Analyzes contemporary social problems within the theoretical framework of social change, value conflicts, and social deviation and examines resulting implications for social policy. (45-0)

SOC 215W Sociology of Minority Groups 3 Sem Hrs
Prerequisite: SOC 211 with a "C" or better. Studies prejudice and discrimination against minority groups, primarily in the United States, using the sociological approach. Emphasizes the analysis of both causes and solutions to the problems of prejudice and discrimination. (45-0)

SOC 216W The Black Experience 4 Sem Hrs
Surveys Black life using an inter-disciplinary approach. Studies Black culture, power and politics, Black family, business and economic development, and Black psychology. Presents a historical analysis as well as an overview of contemporary research and/or thought in the field. (60-0)

SOC 221W Marriage and Family 3 Sem Hrs
Prerequisites: SOC 211 or SOC 231 with a "C" or better. Studies the family as an institution in society. Encompasses aspects of historical and cross societal evidence of this institution as well as contemporary American pairing and child rearing practices with a broad research approach. (45-0)

SOC 230HW Physical Anthropology and Archeology - Honors 4 Sem Hrs
Prerequisites: LEVEL 4 READING and LEVEL 2 WRITING and permission of Honors Office. Introduces the origin and evolution of humankind's physical and cultural development. Emphasizes the evidence and theories of human evolution and a survey of Old World and New World archeology. Provides opportunities to engage in Independent intellectual inquiry to foster deeper learning. Credit may be earned in only one of SOC 230, SOC 230H, BIO 230, or BIO 230H. (60-0)

SOC 230W Physical Anthropology and Archeology 4 Sem Hrs
Prerequisites: READING LEVEL 2 or WRITING LEVEL 2. Introduces the origin and evolution of humankind's physical and cultural development. Emphasizes the evidence and theories of human evolution and a survey of Old World and New World archeology. Credit may be earned in only one of SOC 230, SOC 230H, BIO 230, or BIO 230H. (60-0)

SOC 231HW Cultural Anthropology - Honors 3 Sem Hrs
Prerequisites: LEVEL 4 READING and LEVEL 2 WRITING and permission of the Honors Office. Introduces humanity in its cultural setting. Emphasizes the study of diversity of non-industrialized cultures and the implications of that study for understanding our own culture. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in SOC 23 1, or SOC 231H, but not both. (45-0)

SOC 231W Cultural Anthropology 3 Sem Hrs
Prerequisites: LEVEL 2 READING or LEVEL 2 WRITING. Introduces humanity in its cultural setting. Emphasizes the study of diversity of non-industrialized cultures and the implications of that study for understanding our own culture. Credit may be earned in SOC 231 or SOC 231H but not both. (45-0)

SOC 233W Archaeology Field Methods 2 Sem Hrs
Provides a guided field experience in the basic techniques of land site analysis. Introduces commonly used methods of surveying and mapping; excavation; dating; artifact and ecofact identification and conservation; data recording, including photography and scaled drawing; and site interpretation. Examines criteria for selecting techniques appropriate to specific site conditions. Emphasizes the Michigan prehistoric and historic context. (30-0)

SOC 242W Nanotechnology: Content and Context 3 Sem Hrs
Prerequisite: READING LEVEL 2 or WRITING LEVEL 2. Explores nanotechnology and its impact on society. Discusses the current status of nanotechnology and projected technologies and applications. Focuses on the societal implications of emerging technologies and their impact on social institutions. Includes how technological change in the past has altered societies, and considers how possible future changes predicted with the accomplishment of nanofabrication and other nanotechnologies may impact societies. (45-0)

SOC 250W Introduction to Social Work 3 Sem Hrs
Prerequisites: LEVEL 2 READING or LEVEL 2 WRITING. Introduces social work as a helping profession within the field of human services. Explores social work values, practice strategies, and helping skills in the context of the social welfare institution. Requires 45 hours of internship, which meets the experience requirement necessary for admittance to the social work program at transfer institutions. (45-45)

SOC 265W Third World Development 4 Sem Hrs
Using a multidisciplinary approach, describes and analyzes processes and conditions which created and maintain the "third world." Addresses population, physical environment, historical, political, social and economic factors. Explores and applies current concepts and development theories. Credit may be earned in SOC 265 or GEO 255, but not in both. (60-0)

SOC 268 International Studies in Sociology 1-4 Sem Hrs
The student will select a major institution of society for the purpose of comparative study. An analysis and comparison of that institution in preselected societies will be the major focus of the course. Includes classroom lectures, individual consultation and international field study. Expenses for field study must be borne by the student. By prior arrangement with appropriate faculty, students may also take International studies in the following disciplines: GEO 268, ECN 268, MGT 268 (or former GB268). (60-0)

SOC 279W Introduction to Social/Behavioral Science Research 3 Sem Hrs
Prerequisite: One of the following courses ECN 221, POL 103, POL 111, PSY 211, SOC 211, or permission of instructor. Introduces social and behavioral research utilizing a multidisciplinary approach. Shows how to formulate research questions, search the literature, select a research design, collect and analyze data, and draw useful conclusions. Credit may be earned in SOC 279 or SOC 280, but not in both. (45-0)

SOC 280HW Introduction to Social/Behavioral Science Research/Project - Honors 4 Sem Hrs
Prerequisites: LEVEL 4 READING and LEVEL 2 WRITING and permission of the Honors Office and concurrent enrollment in SOC 281 and one of the following courses: ECN 221, POL 103, POL 111, PSY 211, SOC 211, or permission of the instructor. Introduces social and behavioral research utilizing a multidisciplinary approach. Shows how to formulate research questions, search the literature, select a research design, collect and analyze data, and draw useful conclusions. Requires a research paper. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in only one of SOC 280, SOC 280H, or SOC 279. (60-0)

SOC 280W Introduction to Social/Behavioral Science Research/Project 4 Sem Hrs
Prerequisite: Concurrent enrollment in SOC 281 and one of the following courses: ECN 221, POL 103, POL 111, PSY 211, SOC 211, or permission of instructor. Introduces social and behavioral research utilizing a multidisciplinary approach. Shows how to formulate research questions, search the literature, select a research design, collect and analyze data, and draw useful conclusions. Requires a research paper. Credit may be earned in only one of SOC 280, SOC 280H, or SOC 279. (60-0)

SOC 281W An Introduction to SPSS 1 Sem Hr
Prerequisite: Concurrent enrollment in SOC 280, or permission of instructor. Introduces the Statistical Package for the Social Sciences (SPSS), a comprehensive set of statistical tools for many types of data analysis. Emphasizes the basic procedures, commands, and tools of SPSS. Credit may be earned in SOC 281 or CPS 108 but not in both. (15-0)

SOC 282HW Seminar in Social Issues - Honors 3 Sem Hrs
Prerequisite: LEVEL 4 READING and LEVEL 2 WRITING and permission of the Honors Office. An integrated study involving exploration and development of critical thinking, analysis and problem- solving skills with an interdisciplinary approach focusing on a selected social issue. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Same as IHU 282HW and may be taken for SOC or IHU credit but not both. (45-0)

SOC 290-299 Special Projects in Sociology Sem Hr

SOC 300W Interviewing, Counseling, and the Helping Relationship 3 Sem Hrs
Prerequisite: ENG 111 or ENG 111A or ENG 111H with a "C" or better. Establishes beginning social work interviewing and relationship skills as well as awareness of the use of self in the helping relationship. Presents specific interviewing strategies for generalist social work practice. Includes student participation in practice sessions using role plays, videotapes and self awareness exercises. Provides opportunities to practice formal and informal writing. Credit may be earned in PSY 300 or SOC 300 but not in both. (45-0)

Spanish

SPA 109 Spanish for Health Care Professionals I 2 Sem Hrs
Prerequisite: READING LEVEL 3 and WRITING LEVEL 3 and SPA 112 with a minimum grade of C; or a minimum of two years of High School Spanish; or a minimum of two semesters of college-level Spanish; or permission of instructor. Introduces basic conversational Spanish for health care personnel. Practices basic conversational skills and vocabulary appropriate to various job-related situations. Practices correct pronunciation patterns by means of oral-aural practice, small group interaction, and role-playing situations. Introduces certain aspects of Hispanic culture. Requires supplemental (outside of class) listening, reading, speaking, and written work using ancillary materials and the textbook's Internet site. (30-0)

SPA 110 Spanish for Health Care Professionals II 2 Sem Hrs
READING LEVEL 3 and WRITING LEVEL 3, and SPA 109 with a minimum grade of C; or permission of instructor. Introduces basic conversational Spanish for health care personnel. Practices basic conversational skills and vocabulary appropriate to various job-related situations. Practices correct pronunciation patterns by means of oral-aural practice, small group interaction, and role-playing situations. Continues introduction to certain aspects of Hispanic culture. Requires supplemental (outside of class) listening, reading, speaking, and written work using ancillary materials and the textbook's Internet site. (30-0)

SPA 111 Spanish One 4 Sem Hrs
Prerequisite: READING LEVEL 3 and WRITING LEVEL 3; or instructor permission. Introduces basic grammatical structures and vocabulary of modern spoken and written Spanish and correct pronunciation patterns by means of oral-aural practice, small group interaction, reading of simple texts, and written exercises. Introduces certain aspects of Hispanic culture and the differences between the Spanish and the English languages. Requires supplemental (outside of class) listening, reading, speaking, and written work using ancillary materials and the textbook's Internet site. Intended for students with no previous formal study in Spanish. A diagnostic test will be given to determine proper SPA course placement. (60-0)

SPA 112 Spanish Two 4 Sem Hrs
Prerequisite: READING LEVEL 3 and WRITING LEVEL 3 and SPA 111 with a minimum grade of C; or no more than one semester of college-level Spanish; or no more than one year of High School Spanish; or permission of instructor. Continues introduction of basic grammatical structures and vocabulary of modern spoken and written Spanish and to correct pronunciation patterns by means of oral-aural practice, small group interaction, reading of simple texts, and written exercises. Continues introduction of certain aspects of Hispanic culture and differences between the Spanish and the English languages. Requires supplemental (outside of class) listening, reading, speaking, and written work using ancillary materials and the textbook's Internet site. A diagnostic test will be given to determine proper SPA course placement. (60-0)

SPA 113W Introduction to Hispanic Cultures 2 Sem Hrs
READING LEVEL 3 and WRITING LEVEL 3. Examines aspects of Hispanic cultures (Europe, the Americas, Africa, and the United States), Studies history, contributions in the areas of art, literature, and music, and the Hispanic presence in the United States. Course is conducted in English. (30-0)

SPA 211 Spanish Three 4 Sem Hrs
READING LEVEL 3 and WRITING LEVEL 3, and SPA 112 with a minimum grade of C; or no more than 2 semesters of college-level Spanish; or no more than two years of High School Spanish; or permission of instructor. Introduces the basic grammatical structures and vocabulary of modern spoken and written Spanish and correct pronunciation patterns by means of oral-aural practice, small group interaction, reading of simple texts, and written exercises. Continues introducing certain aspects of Hispanic culture and differences between the Spanish and the English languages. Conducts class in Spanish as much as possible. Requires supplemental (outside of class) listening, reading, speaking, and written work using ancillary materials and the textbook's Internet site. (60-0)

SPA 212 Spanish Four 4 Sem Hrs
READING LEVEL 3 and WRITING LEVEL 3, and SPA 211 with a minimum grade of C; or no more than three semesters of college-level Spanish; or no more than three years of High School Spanish. Instructs at the Intermediate level. Increases and expands vocabulary and written and verbal accuracy and fluency through a review of grammar covered in previous courses. Increases ability to understand written and spoken Spanish. Provides the opportunity to deepen cultural awareness and sensitivity, as well as expand awareness of the cultural richness and diversity that characterizes the Hispanic world. Conducts course in Spanish. Requires supplemental (outside of class) listening, reading, speaking, and written work using ancillary materials and the textbook's Internet site. (60-0)

SPA 214 Intermediate Spanish Conversation 2 Sem Hrs
READING LEVEL 3 and SPA 212; or four semesters of college-level Spanish; or four years of High School Spanish, any with a minimum grade of C; or permission of instructor. Offers the opportunity to read and discuss short authentic literary and non-literary texts in Spanish and to watch and discuss selected video samples in Spanish. Discusses selected topics such as differences in cultures, educational systems, families, political systems, etc. Conducts course in Spanish. (30-0)

SPA 268 International Studies in Spanish 1-4 Sem Hrs
Studies ancient, colonial and modern civilization in a Spanish-speaking country. Visits archeological and historical sites with unassigned time for individual interests. Student must meet all course and travel requirements in addition to paying tuition and expenses. (60-0)

SPA 275 Introduction of Hispanic Fiction 3 Sem Hrs
READING LEVEL 4; and SPA 212, or four semesters of college-level Spanish, or four years of High School Spanish, any with a grade of C or better, or permission of instructor. Introduces representative literature from the Hispanic world (Europe, the Americas, Africa, and the United States). Reads, discusses, and writes about selected novels, plays, short stories, and poetry. Expands knowledge of Hispanic culture. Conducts course in Spanish. (45-0)

SPA 290-299 Special Projects in Spanish Sem Hr

Social Science Interdisciplinary

SSI 110W Introduction to Genealogy 1 Sem Hr
Introduces and broadly examines genealogy from an interdisciplinary perspective. Examines family and ethnic history and pursues family history for personal and professional growth. Covers research methods, record keeping, and problem solving. Emphasizes the use of archival and printed sources, and the Internet. Credit may be earned in SSI 110 or IHU 110 but not in both. (15-0)

SSI 120W Introduction to Global Peace Studies 3 Sem Hrs
Prerequisites: READING LEVEL 2 or WRITING LEVEL 2. Provides an interdisciplinary foundation for global peace studies. Focuses on identifying the various factors that interact to generate peace and/or conflict at the personal, local, national, and international levels. Includes analysis of how the interaction of economic and political influences, as well as the availability of environmental resources and cultural norms and values can result in peace or conflict. Explores and applies to case studies the distinction between positive and negative peace and methods of conflict analysis and resolution. Provides participation in cross-cultural training and mediation, as well as practices designed to enhance emotional self-regulation and perspective-taking, skills necessary for effecting positive change in the world. (45-0)

SSI 232W Exploring Human Nature 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition I course and WRITING LEVEL 4. Explores the question "What does it mean to be human?" from interdisciplinary perspectives. Identifies and discusses the relative importance of traits and characteristics that "make us human." Examines and evaluates major traditional and contemporary views of human nature and introduces alternative ways of understanding the self in relation to nature, society, religion, and the state. Credit may be earned in only one of IHU 232, SSI 232, or PSY 232. (45-0)

SSI 234W World Religions 4 Sem Hrs
Prerequisites: READING LEVEL 2 or WRITING LEVEL 2. Introduces religion and the primary "living" religions of the world. Examines the principles and functions of religion, the origins and cultures of the world's major religions, and their beliefs and primary ritual practices. Discusses and critically examines how religious belief systems and practices influence the thoughts and behaviors of adherents in everyday life. Credit may be earned in SSI 234 or IHU 234 but not in both. (60-0)

SSI 240W Leadership for Positive Change 3 Sem Hrs
Prerequisites: READING LEVEL 2 or WRITING LEVEL 2. Prepares students to lead positive change in a variety of contexts (personal, family, community/social and organizational). Includes: leadership development, problem solving, service learning, team work, global citizenship, sustainability, and social action. Provides opportunities for individual practice and reflection and requires "change" project in service to family, community, or place of employment. (45-0)

SSI 268W International Studies in Social Science 1-4 Sem Hrs
Provides interdisciplinary examination through the Social Sciences of the human experience in another social and cultural context. Requires travel and foreign study with travel expenses borne by the student. (15-60, 0)

SSI 269W Interdisciplinary Study with Domestic Travel 1-4 Sem Hrs
Prerequisites: READING LEVEL 2 and WRITING LEVEL 2. Provides an interdisciplinary study-travel experience focused on examining the factors, issues and forces that impact the course topic within the United States. Historical and contemporary perspectives will also be used to examine various cultural contexts and lifestyles. Involves readings, writing, discussion and travel. Requires domestic travel with expenses borne by the student. Credit may be earned in SSI 269 or IHU 269, but not both. (15/60-0)

SSI 288W Exploring Diversity 2 Sem Hrs
Prerequisites: LEVEL 2 Reading and LEVEL 2 Writing. Provides a foundation in knowledge and application of issues and principles surrounding diversity. Provides an opportunity to explore, reflect and practice an interdisciplinary approach to the study of diversity. Credit may be earned in only one of the following: SSI 288, SSI 289, ED 388, ED 389, IHU 280 or IHU 281. (30-0)

SSI 289HW Exploring Diversity with project - Honors 3 Sem Hrs
Prerequisites: LEVEL 4 READING and LEVEL 2 WRITING and permission of the Honors Office. Provides a foundation in knowledge and application of issues and principles surrounding diversity. Provides an opportunity to explore, reflect and practice an interdisciplinary approach to the study of diversity. Includes completion of project. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in only one of the following: SSI 288, SSI 289, ED 388, ED 389, IHU 280 or IHU 281. (45-0)

SSI 289W Exploring Diversity/With Project 3 Sem Hrs
Prerequisites: LEVEL 2 Reading and LEVEL 2 Writing: Provides a foundation in knowledge and application of issues and principles surrounding diversity. Provides an opportunity to explore, reflect and practice an interdisciplinary approach to the study of diversity. Includes completion of project. Credit may be earned in only one of the following: SSI 288, SSI 289, ED 388, ED 389, IHU 280 or IHU 281. (45-0)

SSI 290-299 Special Projects in Social Science Interdisciplinary

SSI 293 Public Achievement 1 Sem Hr
Prerequisites: READING LEVEL 2 AND WRITING LEVEL 2. Introduces and applies a process for making positive-change in communities. Emphasizes the power of citizenship in democracy and that ordinary people can challenge the status quo through collaboration and working toward a common goal. Provides opportunity for "coaching" a team of middle- or high-school students in designing and implementing projects to solve civic problems while learning lifelong skills to engage in politics and public life. (15-0)

SSI 294W Special Projects: The Great Lakes Indians and European Experience 3 Sem Hrs
Prerequisites: READING LEVEL 2 or WRITING LEVEL 2. Examines American Indian history and culture in the Great Lakes from pre-contact to 1934. Considers and explores the approaches of studying Native Americans from a historical and sociological perspective; including the political, cultural, and social consequences of contact with Europeans. Provides a thorough historical and cultural background of the Great Lakes Indians, specifically the "People of the Three Fires," known as the "Anishnaabeg" and "People of the Calumet" of the Great Lakes. Credit may be earned in SSI 294 or IHU 294 but not both. (45-0)

SSI 295W Special Projects in Interdisciplinary Social Science - The Sixties3 Sem Hrs

Perquisite: A "C" grade or better in a college level composition I course and WRITING LEVEL 2 or permission of instructor. Examines, through an interdisciplinary approach, the literature, film, music and other types of media of 1960s America and explores their interrelationships with history, psychology, sociology and philosophy to discover the causes and effects of the upheaval of the era. Discusses the social movements of the era and the changes in the way democracy has been perceived. Credit may be earned in IHU 295W or SSI 295W but not both. (45-0)

Surgical Technology

ST 100 Introduction to Health Care Service 3 Sem Hrs

Prerequisite: BIO 152 with a grade of "C" or better. Presents the history of medicine, epidemiological methods, and current problems and trends in the health care system. Discusses selected global health care issues. Includes professional, legal, and ethical aspects of a multidisciplinary care system. (45-0)

ST 207 Pharmacology in the Operating Room 2 Sem Hrs

Prerequisites: Admission to the Surgical Technology program and concurrent enrollment in ST 210, ST 220, ST 230, and ST 240. Introduces anesthetic agents and other drugs commonly used in the perioperative setting: their uses, methods of administration, physiologic effects, and hazards or untoward effects. Credit may be used in ST 107 or ST 207 but not in both. (30-0)

ST 210 The Surgical Patient 2 Sem Hrs

Prerequisites: Admission to the Surgical Technology program and concurrent enrollment in ST 207, ST 220, ST 230, ST 240. Introduces basic concepts of operative patient care, such as preparation of a patient for surgery, patient transportation, surgical incisions, wound healing, operative records, special procedures in the operating room, and the legal, moral and ethical responsibilities of surgical care. Credit may be earned in ST 110 or ST 210 but not in both. (30-0)

ST 220 Fundamentals of Surgical Technology 6 Sem Hrs

Prerequisites: Admission to the Surgical Technology program and concurrent enrollment in ST 207,ST 210, ST 230, and ST 240. Demonstrates fundamental principles of operating room function: roles of surgical team members, sterilization and disinfection methods, aseptic technique, surgical instruments, sutures and equipment, electrical safety, patient positioning and preparation, draping the sterile field, and care of supplies. Develops beginning technical skills through laboratory practice; later, operating room observational experiences are provided. Credit may be earned in ST 120 or ST 220 but not in both. (45-120)

ST 230 Surgical Anatomy 4 Sem Hrs

Prerequisites: Admission to the Surgical Technology program and concurrent enrollment in ST 207, ST 210, ST 220, and ST 240. Presents comprehensive regional study of human anatomy as encountered during surgery. Provides the basis for studies of surgical pathology, operative procedures and practical skills of surgical patient care. Credit may be earned in ST 130 or ST 230 but not in both. (45- 45)

ST 240 Operative Procedures 4 Sem Hrs

Prerequisites: Admission to the Surgical Technology program and concurrent enrollment in ST 207, ST 210, ST 220, and ST 230. Studies selected commonly-performed types of surgical procedures. Discusses the pathology leading to surgical invention, the purposes of the surgery, problems which may arise, and the consequences of the surgery for the patient, in addition to the basic techniques utilized during the procedure and any special instrumentation and supplies. Credit may earned in ST 140 or ST 240 but not in both. (60-0)

ST 250 Clinical Externship 12 Sem Hrs

Prerequisites: ST 207, ST 210, ST 220, ST 230, ST 240, each with a minimum C (2.0) grade, and consent of the Program Coordinator. Gains supervised clinical experience in hospital operating room suites. Evaluates each student's progress in the theoretical, behavioral, and practical application of concepts of surgical technology. Credit may be earned in ST 200 or ST 250 but not in both. (0-540)

ST 251W Operating Room Seminar 3 Sem Hrs

Prerequisite: ST 207, ST 210, ST 220, ST 230, and ST 240, each with a minimum "C" (2.0) grade, and consent of the Program Coordinator. Discusses patient-monitoring devices and diagnostic tests, abnormalities and correlations with surgical patient conditions, and surgery for traumatic injuries. Includes discussion of students' clinical experiences, the professional role of the Surgical Technologist, general review, and assigned research studies. Credit may be earned in ST 201 or ST 251 but not in both. (45-0)

ST 290-299 Special Projects in Surgical Technology

Technical Trades Interdisciplinary

TTI 100W Introduction to Sustainability 3 Sem Hrs

Prerequisite: READING LEVEL 2 or WRITING LEVEL 2. Explores the many facets of sustainability. Investigates how social, economic, and environmental activities shape all aspects of our planet. Develops sustainability literacy by studying, in a multidisciplinary framework, the interdependence of humans and the environment within historical and current contexts. Explores the working definition of sustainability and relationships among social, economic and environmental factors. (45-0)

TTI 101 Exploring Careers in Technology, Trades and Manufacturing 2 Sem Hrs

Emphasizes career education in the Technical, Trades and Manufacturing disciplines including opportunities, wages, working conditions, and curriculum. Includes hands-on projects in each of the disciplines. (15-15)

TTI 110 Sustainable Building Principles 2 Sem Hrs

Discusses sustainable (green) building concepts including rating systems such as LEED for Homes and NAHB Model GREEN Home Building. Follows green building from design and site selection to the finishes used, with special emphasis on current case studies, the economics of green building, benefits and barriers, and sources of information. (30-0)

TTI 120 Energy Auditing and Weatherization 3 Sem Hrs

Provides training in the principles of energy auditing and weatherization inspection. Covers the principles of energy, energy and the building shell, energy auditing, air leakage, insulation, windows and doors, heating and cooling systems, indoor air quality, lighting and appliances, and water heating. Provides training to conduct energy audits and use this data to form a cost effective weatherization plan. Begins steps in acquiring knowledge for those considering energy auditing certification. (35-10)

TTI 290-299 Special Projects in Technical Trades Interdisciplinary

Welding Engineering Technology

WELD 101 Exploratory Oxy-Fuel Welding and Cutting 1 Sem Hr

Addresses safety in the use of oxy-fuel gas equipment and equipment set-up. Explores oxy-fuel welding and brazing of flat strips 1/8" or less in thickness, and cutting plate in laboratory experience. Intended for non-welding majors. (10-5)

WELD 102 Exploratory Shielded Metal Arc Welding 1 Sem Hr

Addresses safety in arc welding, welding terms and definitions and electrode selection. Includes striking an arc and running boards.

WELD 103 Introduction to Plasma, Carbon Arc, and Fuel Gas Cutting 3 Sem Hrs
Addresses safety in use of equipment for oxy-fuel gas welding and cutting, and equipment set-up. Include oxy-fuel welding of flat strips 1/8" or less in thickness, and cutting, beveling, and piercing plate and pipe in laboratory experience. Credit may be earned in one of the following courses WELD 103, SKWL 103, or SKWL 101 but not in more than one. (30-15)

WELD 104 Introduction to Shielded Metal Arc Welding 3 Sem Hrs
Addresses safety in arc welding, welding terms and definitions, electrode selection, and welding joints. Includes striking an arc, running beads, pad welding, and fillet welds in lab. Credit may be earned in either WELD 104 or SKWL 104 but not both. (30-15)

WELD 106 Exploratory Gas Tungsten Arc Welding 1 Sem Hr
Discuss general safety, Gas Tungsten Arc Welding (GTAW) safety, welding terms and definitions, filler metal, electrode and gas selection. Includes laboratory exercises in starting an arc and running bead on plate. (10-5)

WELD 108 Exploratory Gas Metal Arc Welding 1 Sem Hr
Discusses general safety, Gas Metal Arc Welding (GMAW) safety, welding terms and definitions, electrode and gas selection. Includes laboratory exercises in starting an arc and running beads. (10-5)

WELD 114W Intermediate Shielded Metal Arc Welding 8 Sem Hrs
Discusses Shielded Metal Arc Welding (SMAW) safety, welding terms and definitions, welding electronics, and welding joints. Includes laboratory exercises in groove welds in fixed positions. (60-60)

WELD 120 Beginning Industrial Blueprint Reading 2 Sem Hrs
Includes manipulation of basic fractions and decimals as applied to the reading of blueprints, reading measuring instruments, basic geometric figures, drafting and blueprinting procedures, basic orthographic projection auxiliary and sectional views, detail and assembly drawings, dimensioning and tolerances, title block, change block, list of materials, and notes. Credit may be earned in WELD 120 or DRF 120 but not both. (30-0)

WELD 122 Blueprint Reading for Welders and Fabricators 2 Sem Hrs
Prerequisite: WELD 120 or DRF 120 or DRF 121 or SKDR 101. Applies principles specifically designed for welders and fabricators working with welding drawings. Interprets basic blueprint information, orthographic projection, assembly drawings, and geometric tolerancing. Places emphasis on welding symbols and welding drawings. Credit may be earned in WELD 122 or DRF 122 but not both. (30-0)

WELD 220 Weld Qualification-Plate 4 Sem Hrs
Prerequisites: WELD 114 and WELD 235 with a "C" (2.0) in each class or better. Teaches welding safety, welding terms and definitions, welding electronics, and AWS welder performance testing procedures. Includes qualification tests in the 3G and 4G positions as laboratory exercises. (15-45)

WELD 224W Advanced Shielded Metal Arc Welding 8 Sem Hrs
Prerequisite: WELD 114 with a C (2.0) average. Discusses Shielded Metal Arc Welding (SMAW) safety, nominal pipe size and thickness standards, and welding joints. Includes laboratory exercises in groove welds on pipe in fixed positions. (60-60)

WELD 226W Gas Tungsten Arc Welding 8 Sem Hrs
Discusses general safety, Gas Tungsten Arc Welding (GTAW) safety, welding terms and definitions, filler metal, electrode and gas selection, nominal pipe size and thickness standards, and welding joints. Includes laboratory exercises in starting an arc, running beads, pad welding, and groove welds on plate and pipe in fixed positions. (60-60)

WELD 235W Gas Metal Arc Welding 8 Sem Hrs
Discusses general safety, Gas Metal Arc Welding (GMAW) safety, welding terms and definitions, electrode and gas selection, nominal pipe size and thickness standards, and welding joints. Includes laboratory exercises in starting an arc, running beads, pad welding, and groove welds on plate and pipe in fixed positions. (60-60)

WELD 290-299 Special Projects in Welding Sem Hr

Water Environment Technology

WET 110 Water Treatment Technologies 3 Sem Hrs
Studies conventional water treatment processes. Includes preliminary treatment, coagulation and flocculation, sedimentation and clarification, filtration, and disinfection. Includes tours of municipal water treatment facilities and related field discussions. Credit may be earned in WWT 110 or WET 110, but not in both. (45-0)

WET 112 Wastewater Treatment Technology 3 Sem Hrs
Provides an introduction to the causes of water pollution, the reasons for treating polluted waters and the fundamentals of wastewater treatment. Studies the basic principles of treatment plant operation and the processes commonly used in pollution control facilities. Investigates terms, mathematics and problem solving techniques commonly used by wastewater treatment personnel. Credit may be earned in WWT 112 or WET 112, but not in both. (45-0)

WET 210 Advanced Wastewater Treatment Technologies 3 Sem Hrs
Prerequisites: WET 112 and MATH LEVEL 6 or permission from instructor. Discusses wastewater treatment technologies beyond conventional processes. Includes the processes and techniques commonly used for advanced wastewater treatment, disinfection, solids stabilization and disposal, nutrient reduction and toxics removal. Includes field tours and discussion of safety and health, sampling procedures, record keeping, data preparation and report writing, and analytical procedures used to determine optimal plant operation and compliance with regulatory requirements. (45-0)

WET 212 Advanced Water Treatment Technologies 3 Sem Hrs
Prerequisites: WET 110 and MATH LEVEL 6 or permission of instructor. Considers drinking water treatment technologies beyond conventional processes. Includes softening, ion exchange, activated carbon absorption, aeration, air stripping, and membrane processes. Includes participation in field tours and discussions on safety and health, sampling procedures, record keeping, data preparation, report writing and the analytical procedures used to determine and measure drinking water quality. (45-0)

WET 215 Water Quality Analysis And Wet Instrumentation 3 Sem Hrs
Prerequisites: WET 110 and WET 112 and CHM 105 or CHM 111 and MATH LEVEL 6 or permission of the instructor. Investigates conventional water and wastewater laboratory test procedures, with particular emphasis on those analytical techniques that require an understanding and practical use of laboratory instrumentation. Water Quality Lab tests include BOD, TSS, temperature, DO, pH, conductivity, TDS, total and volatile solids, alkalinity, TRC, and others common to the daily operation of both drinking water and wastewater plants; includes discussions of basic stream ecology and applied environmental science principles. Instrumentation Lab includes the use of pH, millivolt and specific ion meters and probes and an introduction to Spectrophotometry, atomic absorption (AA), and gas chromatography/mass spectrometry (GC/MS). Includes field tours of municipal water and wastewater treatment facility labs and related field study discussions. (30-30)

WET 220 Water Microbiology 3 Sem Hrs
Prerequisites: WET 210 and WET 212 and WET 215 or permission from instructor. Investigates more advanced water quality analytical techniques and the microbiology of water, including microscopic examination and identification of microorganisms commonly found in water supplies, water and wastewater treatment processes and polluted bodies of water. Water Quality Analysis lab work involves more advanced analytical procedures to determine nutrients, heavy metals and toxic materials. Focuses on lab safety and health, proper lab technique, representative sampling procedures, record keeping, data preparation and handling, and report writing. Continues field studies and analysis using Atomic Absorption and/or Gas Chromatography/ Mass Spectrometer instruments. Includes lab work involving organisms commonly found in water and wastewater samples and with specific bacteriological analytical techniques. (30-30)

WET 230 Water/Wastewater Utility Management 3 Sem Hrs
Prerequisites: WET 110 and WET 112 or permission of instructor. Investigates, in depth, the management elements of planning, organizing, staffing, directing and controlling as they relate to the management, supervision and administration of Water and Wastewater facilities. Presents management styles, problem recognition and problem solving techniques, budget and report preparation activities, federal and state regulatory issues, employee/employer (labor/management) relations and leadership topics. (45-0)

WET 240 Applied Hydraulics 3 Sem Hrs
Prerequisite: MATH LEVEL 6 or permission of instructor. Studies applied hydraulic principles utilized in water distribution and wastewater collection systems. Includes pumpage, headloss, piping, valving, metering, cross connection control, storage, corrosion, and an introduction to hydraulic modeling. Discusses the principles of force, pressure, hydraulic grade line, and pump curves. Includes tours of municipal/industrial water pump stations and storage reservoirs and related field discussions. Credit may be earned in WWT 240 or WET 240, but not in both. (45-0)

WET 244 Water/Wastewater Utility Equipment Maintenance 3 Sem Hrs
Prerequisite: WET 110 or WET 112. Provides the student with basic knowledge of mechanical equipment and repair techniques used in both water and wastewater facilities. Uses shop drawings and blueprints during disassembly and reassembly of a variety of mechanical devices. Studies pumps, valves, piping systems, and chlorination equipment. Credit may be earned in WWT 244 or WET 244. but not in both. (45-0)

WET 246 Water/Wastewater Utility Electrical Maintenance 2 Sem Hrs
Prerequisite: WET 110 or WET 112. Studies basic electricity and instrumentation utilized in water and wastewater treatment facilities. Emphasizes the use of testing equipment to troubleshoot electrical and instrumental failures, maintenance problems, and evaluation of equipment performance. Includes discussion of energy conservation methods. Credit may be earned in WWT 246 or WET 246, but not in both. (30-0)

WET 265 Practicum In Water/Wastewater Treatment 4 Sem Hrs
Prerequisites: WET 210, WET 212, WET 215, WET 244, WET 246, each with a minimum "C" (2.0) grade, and must be taken during final semester with permission of program director. Provides opportunities to perform technical procedures through structured field experience in water and wastewater treatment plants. Emphasizes gaining experience under plant managers and operating personnel with goal of developing organizational skills and responsibility necessary for entry-level employment. Uses rotation through assigned areas of experience in water treatment for 160 hours and continuous experience in wastewater treatment for 160 hours of in-plant services for total of 320 hours minimum required. Credit may be earned in WWT 265 or WET 265, but not in both. (0-320 OJT)

WET 290-299 Special Projects in Water Environment Technology

Writing - College Prep

WRT 090 Introduction to Academic Writing 4 Sem Hrs
Prerequisite: WRITING LEVEL 1. Provides those who are not yet prepared for academic work in the regular composition sequence (ENG 111A, ENG 111, ENG 112, or OAT 150, OAT 151, OAT 152) with opportunity to improve their writing skills in an interactive and collaborative setting. Includes practice of personal and academic writing with special attention given to individual needs, which may include organization, sentence structure and variety, correct usage, and vocabulary development. Practices active reading strategies to understand, interpret, and apply information from reading. Does not earn credit towards graduation. Must earn a grade of "C" or better in WRT 090 for progression to the next level. Credit may be earned in ENG 090 or WRT 090 but not both. (60-15)

WRT 098 Preparation for College Writing 3 Sem Hrs
Prerequisite: WRITING LEVEL 2. Provides those who are not yet prepared for academic work in the regular composition sequence (ENG 111A, ENG 111, ENG 112 or OAT 150, 151, 152) with opportunity to improve their writing skills in an interactive and collaborative setting. Includes practice with personal and academic writing. Does not earn credit for graduation. Credit may be earned in ENG 098 or WRT 098 but not both. (45-0)

Wind Turbine Technology

WTT 100 Introduction to Wind Energy 3 Sem Hrs
Prerequisite: MATH LEVEL 6. Introduces students to the fundamental concepts of turning energy from the wind into electricity. Explores the history and projected future of producing energy from the wind. Identifies the various scales of wind turbines, design types and requirements, and their major subcomponents. Performs a general analysis of sites where wind turbine installations are developing, along with analyzing Federal and State policies regarding the production of power from large-and small- scale wind turbines. (45-0)

WTT 110 Climb Safety and Rescue Safety Training 2 Sem Hrs
Prerequisite: MATH LEVEL 6 and LWT 165. Identifies industry safety standards and regulatory requirements for fall hazards associated with wind turbine maintenance activities. Identifies the function and use of basic fall protection equipment and also selects, inspects, assembles, and uses fall protection and rescue equipment. Upon completion of this course, participants will be capable of using a planned approach to tower climbing and rescues using state-of-the art techniques and equipment. (15-15)

WTT 120 Wind Turbine Mechanical Systems 3 Sem Hrs
Prerequisites: MT 151, MT 161 each with a grade of "C" or better: Identifies and explains the operation and construction of wind turbine mechanical systems. Explains preventative maintenance activities and lubrication requirements while emphasizing potential mechanical failures that are associated with the maintenance activities. Provides opportunities to inspect, disassemble, and reassemble wind turbine mechanical systems. Demonstrates proper lubrication and preventative maintenance techniques along with applicable mechanical repair procedures. (30-15)

WTT 120W Wind Turbine Mechanical Systems 3 Sem Hrs
Prerequisites: MT 151 and MT 161 each with a grade of "C" or better: Identifies and explains the operation and construction of wind turbine mechanical systems. Explains preventative maintenance activities and lubrication requirements while emphasizing potential mechanical failures that are associated with the maintenance activities. Provides opportunities to inspect, disassemble, and reassemble wind turbine mechanical systems. Demonstrates proper lubrication and preventative maintenance techniques along with applicable mechanical repair procedures. (30-15)

WTT 215 Wind Turbine Blade Design 2 Sem Hrs
Prerequisite: WTT 120 with a grade of "C" or better. Prepares for working with wind turbine blades to include terms, manufacture and identification of necessary repairs of wind turbine blades to ensure effective and efficient operation. Studies the facets of the blades of the wind turbine industry. Covers the aerodynamic basics of the turbine blades using the wind to convert one form of energy to another. Studies composite materials as they are used in the manufacturing process of wind turbine blades. Explores modes of blade failure and identification.(15-30)

WTT 230 Wind Turbine Schematics 1 Sem Hr
Prerequisite: WTT 120 with a grade of "C" or better. Identifies National and European schematic symbols, analyzes operating characteristics, and explains the operation of interrelated wind turbine systems. Covers applied schematics as well as the overall operation of a wind turbine. (15-0)

WTT 240 Power Generation, Transmission, and Distribution 2 Sem Hrs
Prerequisite: ET122 and WTT 120, both with a grade of "C" or better. Identifies and explains the regulatory requirements as well as the risks and hazards associated with working on high voltage systems. Applies three-phase electrical power generation characteristics to utility scale transformers, relays, capacitors, switchgear, and related components for both common Delta and Wye configurations. (30-0)

WTT 280 Fundamentals of Data Acquisition 3 Sem Hrs
Prerequisite: ET122 and WTT 120, both with a grade of "C" or better. Examines how wind resource data is collected and analyzed for use in the development of wind powered generation of electricity. Identifies and explains the function and operation of sensors and transducers. Develops skills of selecting, connecting, and operating sensors and transducers in an industrial environment in order to perform maintenance actions. (15-30)

WTT 290-299 Special Projects in Wind Turbine Technology

Section VI

Regulations and References

Student Rights & Responsibilities

In joining the academic community, students enjoy the right of freedom to learn and share the responsibility in exercising that freedom. Students are expected to conduct themselves in accordance with standards which are designed to perpetuate the educational purposes of the College.

The College has developed procedures and channels by which students may have a fair and objective hearing for their grievances in regard to academic evaluation, students' rights and privacy, and disciplinary action. Students have the right of protection against prejudice, capricious academic evaluation, or loss of personal rights and freedom. At the same time, however, students are responsible for maintaining standards of academic performance established for each course in which they are enrolled and for following the rules of conduct established by the College.

Student Rights of Association and Expression

A. Students are free to organize and join associations to promote their common interests. In order to use College facilities and resources and to request financial assistance, student groups are required to register with the Student Engagement Office, submitting a statement of purpose and a current list of officers or designated representatives. Groups are also encouraged to choose a faculty or staff advisor to assist them.

B. Students and student organizations are free to examine and discuss all questions of interest to them and to express opinions publicly and privately, including their views on issues of College policy.

C. Generally, students or student organizations may distribute written material without prior approval. Hand-to-hand distribution shall be permitted in areas of public passage (commons, hallways, sidewalks, etc.), providing distribution does not interfere with normal College activity or routine. Posting and other types of distribution shall be limited to those places established by written College regulations. For more information see "Public Information Posting Guilelines" in this section.

D. Students and student organizations are free to invite speakers, to hear any person, and to plan programs of their own choosing subject only to those written requirements established by the College to ensure proper scheduling and use of facilities.

E. No policy, procedure, or guideline of Delta College shall discriminate on the basis of the political, social, or other opinions of students individually or collectively.

F. No record will be kept by Delta College which reflects the lawful political activities or beliefs of students, unless requested by the student in writing. Information about a student's views, beliefs, and/or political associations acquired by the faculty or other College employees in the normal course of their work will be considered confidential and will not be disclosed without the knowledge and consent of the student unless under legal compulsion.

G. Nothing in this policy shall be construed to imply approval or endorsement by Delta College of the views expressed by students or student organizations.

H. Nothing in this policy shall be construed to relieve any person of obligations under Regulations and Rules of Conduct.

Regulations and Rules of Conduct

I. Introduction

A. **General Responsibility:** Delta College has the responsibility to adopt and enforce rules which are consistent with Delta College goals and operations and to establish due process procedures in disciplinary cases.

B. **Authority to Establish Standards of Conduct:** Standards of conduct are established by rules of the College, as adopted by the Board of Trustees, and made known through College publications or by notices distributed or prominently posted on College Bulletin Boards; and by laws of the United States, State of Michigan and County of Bay (public laws).

Except in the case of interim or emergency rules as granted by Michigan Public Act No. 26 of 1970, such regulations shall be established and amended with the advice of the College Senate. Final authority is through either the Delta College Board of Trustees or the laws of the United States, State of Michigan, or County of Bay.

C. **Individual Responsibility:** An individual having an institutional relationship to Delta College (members of College community) is automatically placed under the rules of the College. "Institutional relationship to the College" means any connection of employment, enrollment, or service existing between any person and Delta College. As used herein, this phraseology is intended to prevent the application of these rules to purely personal or social relationships between or among students, faculty members, administration, or staff members outside the College proper. It is therefore important for all members of the College community to familiarize themselves with the rules and regulations affecting them.

D. **Effect of Violating Rules:** A member of the College community violating any of the rules of the College or a public law, on-Campus or off-Campus, at a Delta College-sponsored activity, is subject to disciplinary action by Delta College that is appropriate to the nature of the offense. Such disciplinary action will be taken in accordance with the procedures governing cases of violations as outlined in the Delta College judicial process. For more information see "Student Violation of College Rules and Regulations" in this section.

E. **Reports of Violations:** Reporting of violations shall be within the province of all members of the College community, because they have a common responsibility in maintaining an orderly and efficient community for their mutual benefit. Violations may fall in one of several categories: 1. Minor offenses which are dealt with by reprimand; 2. Violations by students which are to be reported to the Office of the Vice President of Student Services; 3. Violations by faculty or staff members which are to be reported to the Office of the President; and 4. Civil or criminal violations which are to be reported to the Department of Public Safety.

F. **Severance Provision:** If any of the foregoing rules or any part of any such rule shall be adjudged invalid by a court of competent jurisdiction, then such adjudication shall not affect the validity of these rules as a whole or any provision or part of any such rules not so adjudged invalid.

II. Rules and Regulations

A. **Physical Force:** No member of the College community shall use physical force, threaten physical force, or use intimidation against any person engaged in an activity properly undertaken as part of an institutional relationship of the College except as permitted under normal law enforcement procedures.

B. **Disruption:** No member of the College community shall interfere with a College function by depriving any person of needed safety, quiet, or other physical conditions of work or study.

C. **Interference:** No member of the College community shall interfere with the free movement of any person engaged in an activity properly undertaken as part of an institutional relationship to the College.

D. **Compliance:** In keeping with the system of voluntary compliance that underlies the College Regulations and Rules of Conduct, no member of the College community shall fail to follow the reasonable

instructions given by an appropriate College official to cease specified conduct, if such conduct threatens disruption or interference with the rights of others, College discipline, College functions, and/or order in the College community.

E. **Identification:** No member of the College community shall refuse to provide identification when requested to do so by an identified employee of the College.

F. **Forbidden Occupation:** No member of the College community shall, subsequent to reasonable notice to leave given by the College President or the authorized designee, continue occupation of any College facility or property which is under the direct control or responsibility of the College, especially if such occupation interferes with a College function or risks injury to a person or property.

G. **Facility Entry and Usage:** No member of the College community shall gain or attempt to gain unauthorized entry to or make unauthorized use of the College facilities or property.

H. **Property:** No member of the College community shall damage, deface, destroy, steal, or misappropriate the property of the College, any member of the College community, or any visitor to the College Campus.

I. **Unauthorized use of College Credit, Property, Etc.:** No unauthorized member of the College community shall use the College telephones, postal machines and meters, duplicating machines, computer, motor vehicles, or other equipment. This provision shall be deemed to also include College billing, charging, and credit card numbers utilized for communications or transportation purposes. Further it shall be a violation for any member of the College community who has not been issued a key by the College to possess or use College keys for any purpose whatsoever.

J. **Counterfeiting, Altering, and Copying:** No member of the College community, shall falsely make, forge, manufacture, print, reproduce, copy, tamper with, or alter any writing, document, record, or identification used or maintained by the College or by members of the College community.

No member of the College community shall knowingly possess, display, or cause or permit to be displayed any writing, record, document, or identification form used or maintained by the College or by members of the College community, knowing the same to be fictitious, altered, forged, counterfeited, or made without authority.

K. **Confidentiality of College Records:** No person shall inspect, investigate, or use College files (i.e., counseling, financial aid, placement, records, registration) without proper College authorization.

L. **Firearms and other Dangerous Materials:** The possession or use of firearms, firecrackers, explosives, toxic or dangerous chemicals, or other lethal weapons, equipment, or material is not permitted on College property at any time except when specifically authorized by the College for educational purposes or when firearms used for recreational purposes and transported through the Campus meet the regulations of the Department of Public Safety.

M. **Alcoholic Beverages:** No member of the College community shall sell, be under the influence of, possess or consume beer, wine, or other alcoholic beverages on College property, or any property which is under the direct control or responsibility of the College. This regulation shall not apply to the President's home. This rule may be suspended from time to time by authorization of the President.

N. **Drugs:** No member of the College community shall possess, sell, distribute, be under the influence of or use any controlled substance in either the refined or crude form, except: (1) controlled substances for personal usage, and these must be under a current prescription of a licensed physician, or (2) those specifically authorized to Delta College by Federal or State authorizing agencies for educational purposes. Nor shall any member of the College Community possess property which is used, or intended for use, as a container for any controlled substance, except where prescribed or authorized as described in this paragraph.

O. **Tobacco Free Policy:** Effective August 1, 2007, Delta College became a tobacco free campus. Smoking and use of tobacco products will not be permitted anywhere on the campus; including centers, campus buildings, sidewalks, parking lots, building entrances and common areas, and in College-owned vehicles. The Administration shall fully implement this policy and all applicable laws, regulations, and local ordinances related to smoking and tobacco use.

P. **Selling, Soliciting, and Distributing:** Any person who wishes to distribute, solicit, or sell information, materials, goods, or services not within the normal College activities and routine, must have the written permission of the Vice President of Student Services or the Vice President of Business and Finance or their designee.

Q. **Private Business Ventures:** Delta College facilities such as offices, computers, copiers, etc. are not to be used for private business ventures. Also, Delta College's name is not to be associated in any way (such as use of letterhead, e-mail or return address) with private business ventures.

R. **Animals:** People may not bring animals on Campus or into College buildings. Leader dogs and animals used for educational purposes are exceptions; however, all animals must remain under the control of their owners and be properly licensed and medically treated as required by law.

S. **Federal, State, and Local Laws:** Violations of Federal, State, or local laws, and violations of College policies, procedures, rules and regulations, including rules of governing bodies such as the Higher Learning Commission or the National Junior College Athletic Association, and including rules published in the College Catalog and student handbooks and manuals, shall constitute violations of College rules. Such violations apply both on-Campus, or off-Campus in connection with College-sponsored activities.

Questions regarding the rights and responsibilities of Delta College students and guests should be addressed to the Vice President or Dean of Student and Educational Services, 686-9339 or 686-9512.

Integrity of Academic Work

I. Statement of Values

The principles of truth and honesty are fundamental to a community of learners. All members of the Delta College Community are expected to honor these principles and are responsible for maintaining the integrity of academic work at the College.

Plagiarism or any misrepresentation of work, unsanctioned collaboration, use of prohibited materials, and participation in any form of dishonesty all constitute violation of this policy.

Violations of this policy will result in the actions and consequences specified within this policy.

II. Faculty determine standards of integrity for academic coursework.

Examples of academic dishonesty that would constitute violations of this policy include, but are not limited to, the following:

A. Plagiarism[1]

B. Cheating on tests, quizzes, or any assignments

C. Fabrication

D. Aiding and abetting dishonesty

E. Falsification of records and official documents

III. Faculty and Staff Responsibilities.

Faculty should do the following, where applicable and when appropriate:

A. Provide clarification about the nature of academic dishonesty.

B. Clarify expectations for homework, assignments, collaborative student efforts, research papers, exams, etc.

C. Identify any specific style/format requirements for assignments.

D. Communicate ethical and professional standards associated with courses and programs.

E. Honor principles of truth and honesty and in so doing protect the validity of college grades.

[1]Plagiarism is defined as, "the false assumption of authorship; the wrongful act of taking the product of another person's mind and presenting it as one's own." As developed by Alexander Lindey in "Plagiarism and Originality" (N.Y.: Harper,1952)

IV. Student Responsibilities and Rights

Delta College Students are responsible for understanding/following

A. All provisions of this policy including, but not limited to, examples under I and II above.

B. Specific course policies for academic work.

C. Other College policies as specified in the current Delta College Catalog.

D. Commonly understood principles of personal honesty and integrity.

The student may appeal, through the Disputed Final Grades policy, any grade affected by a charge of academic dishonesty.

V. Process for Policy Violations by Students

A. Faculty may use their discretion and judgment in any suspected violation of this policy, including limiting action to a warning. If the faculty member determines that this policy has been violated, then the process outlined below will be followed.

1. If the faculty member decides that a violation of this policy will not affect the student's assignment or course grade, the faculty member will explain the violation to the student and warn the student of future consequences for similar behavior.

2. If a faculty member decides that a violation of this policy will affect the student's grade in the course, then the faculty member will explain the decision in writing to the student within a reasonable time frame. The faculty member will then send copies of the written explanation to the appropriate Division Chair, Academic Dean, and the Chief Academic Officer of the College.

   Both the Division Office and Academic Office will maintain permanent records of these violations.

B. When a violation is reported to the Academic Office, the Chief Academic Officer of the College will determine appropriate consequences beyond the course grade for the student, including, particularly in the case of a repeated violation of this policy, possible dismissal from the College.

VI. Process for Policy Violations by Delta College Faculty and Staff

Suspected violations will be reviewed by the Senate President and the College President and may be investigated by an ad hoc committee appointed and charged by them. The membership of any such committee will represent the appropriate College groups. After an investigation of suspected violation, this committee may recommend further action to the College President.

Student Code of Ethical Conduct

We students acknowledge that Delta College is an educational institution that values equality of opportunity, academic freedom, academic excellence, diversity, and life-long learning. We respect the mission and values of Delta College, and recognize our obligations to fellow students, to faculty, to staff, and to the community.

Obligations to our fellow students and to faculty: we treat all students and instructors with respect, honesty, and fairness, and uphold their rights to autonomy, privacy, and safety. We support the rights of others to express their views in the spirit of academic freedom, and will not ridicule, intimidate, or coerce students or instructors.We encourage academic excellence and discourage academic misconduct. We are committed to learning, to our obligations as students, and to the highest standards of academic integrity.

Obligations to staff and to our community: We read, understand, and comply with all Delta College policies, rules, and regulations in our roles as students. We treat staff and all members of the Delta College community with respect, honesty, and fairness. We are devoted to safeguarding the resources of Delta College, and to using those resources for the benefit of the College and its surrounding communities

Disruptive Students

Disruptive student conduct is defined as student behavior or a pattern of behavior that interferes with a positive educational atmosphere, the civil exchange of ideas, classroom/campus order or may endanger the safety of students and staff. Senate policy 4.020, Disruptive Students, and these procedures identify the progressive steps designed to remedy situations in which a student's behavior is judged to be disruptive or threatening. If the behavior is such that the faculty/staff member reasonably fears immediate harm, then campus police should be called and Senate policy 8.045, Student Violation of College Rules and Regulations, will be followed..

Disruptive conduct taints the educational atmosphere and may endanger the safety of students and staff. Accordingly, when student conduct creates a serious enough disruption such that the only reasonable solution is removal of the student, a student may be temporarily removed from a class/campus area, permanently removed from the class/campus area, or expelled from class/campus. All persons involved in implementing this policy and procedure should exercise caution to ensure that the behavior is severe enough to warrant the response and that the student is afforded appropriate due process consisting of notice and an opportunity to be heard.

The disruptive student policy and accompanying procedures assume that the faculty/staff will make every attempt to resolve this issue with the student through such informal methods as individual conferences and/or written messages. If these informal methods have not met with success, the following formal procedures will be implemented:

1. The student will be verbally warned by the faculty or staff member that the student's behavior is considered to be disruptive (describe the behavior to which the faculty/staff member is referring) and that if the student continues the behavior, he/she will be asked to leave the class/ campus area.

2. If the student persists with the disruptive behavior, the faculty/staff member can then ask the student to leave the class or campus area. At this time the faculty/staff must warn the student that failure to leave may result in police intervention. The faculty/staff must indicate whether the suspension is just for that day or if the student must appeal to the appropriate Division Chair/Supervisor to reenter the class/campus area.

3. If after the previous verbal warnings the student continues to demonstrate disruptive behavior, the faculty/staff has the option to summon the appropriate police agency who will have the option of arresting the student for criminal trespass, if necessary. The faculty/staff member's request for the student to leave provides the police agency with sufficient probable cause to effect an arrest.

4. The faculty/staff will notify his/her Division Chair or immediate supervisor in writing within twenty-four (24) hours of any removal from the class/campus area. The written report must include the student's identity and the behavior that was considered to be disruptive and witnesses to the behavior. Sufficient detail must be provided to allow the Chair/Supervisor to assess whether or not the policy and this procedure was followed.

5. Upon receipt of this notice, the Division Chair/Supervisor must immediately attempt to contact the student by phone, with a follow-up by e-mail, notifying him/her of the opportunity to explain the incident from the student's point of view. In addition, this notice will include the date by which the student must respond back to the Division Chair/Supervisor (or designee) or else forfeit his/her right to appeal. Generally, the student will be given three (3) class* days to respond in person, by phone, or mail (postmarked).

6. Within twenty-four (24) hours of the conclusion of the meeting to review the removal, the Chair/Supervisor will decide if the removal was justified. The Chair/Supervisor may find it necessary to consult with other College employees, students, or records for additional information upon which to base his/her decision. The Chair/Supervisor may support or deny the removal, or make other arrangements for the student.

7. Expulsion from the college is an extraordinary remedy that must be approved by the Chair/Supervisor, the appropriate Dean, and either the Vice President of Instruction or the Vice President of Student and Educational Services.

8. The decision will be conveyed to the student and the faculty/staff member who caused the removal as soon as possible, either in person or by phone or e-mail. A written confirmation of the decision will be sent to both the staff member and the student within three (3) class days.

9. Within three (3) class days of the receipt of the written decision, the student or the faculty/staff member may appeal the decision in person, by phone, by e-mail or in writing to the appropriate decision maker (identified in the written decision) whose decision will be final.

10. Each step of the process should proceed as quickly as possible, while maintaining fairness and objectivity.

*For the purpose of this policy, class days include only Monday-Friday when Delta College classes are in session.

Student Violation of College Rules and Regulations

Overview. This process is to be used to file complaints by students, employees or community members involving violations of College rules or regulations by Delta College students. If a College rule or regulation has been violated, this policy and not Senate Policy 4.020, Disruptive Students, will be used. Every effort will be made to first resolve conflicts through informal discussion with the involved parties. If this fails, a written complaint may be filed as outlined below. In computing any time limits specified under these procedures, Saturdays, Sundays, official school closings, and holidays will be excluded. These time limits may be adjusted by written mutual consent of the parties concerned, or by the Office of Vice President of Student and Educational Services based on mitigating circumstances. Both parties to the complaint have the right at all levels of this policy to present evidence and to question the evidence of the other. Both parties may have a College employee or College student who is not an attorney serve as their advisor or advocate during proceedings under this policy, and that advisor or advocate may take an active role in the proceedings. The Senate President will take all reasonable actions necessary to guarantee that all proceedings occur in a fair and objective manner.

Due Process. This process is intended to provide due process to the student respondent, defined as notice of the charges and an opportunity to respond.

Confidentiality. All parties and all participants in any proceeding under this policy at any step will maintain strict confidentiality and will share information only with their chosen advisor(s), advocate(s), and those whose position or assignments with the College require them to be informed. In addition, the incident may be discussed as part of professional development of faculty or staff without using specific identities. A breach of this obligation of confidentiality may result in disciplinary action.

No Retaliation. Retaliation against anyone filing a complaint or cooperating in any proceeding under this policy is prohibited, and may result in disciplinary action.

I. Step One: Complaint Filing

A complaint alleging violations of a College rule and/or regulation may be filed in writing against any student through the Office of the Vice President of Student and Educational Services, or the Office of the Campus Department of Public Safety, on the required form (State of Michigan Standard Incident Report form or its then existing equivalent). Complaints must be filed within seven days of the date the violation becomes known. This report will then be forwarded to the Office of Vice President of Student and Educational Services (VPSES) for action, with a copy to the Vice President of Instruction and Learning Services (VPILS). The VPSES and the VPILS will communicate and delegate appropriately before proceeding to Step Two.

II. Step Two: Informal Process

A. The VPSES will first attempt to resolve the issue immediately through informal direct contact with the complainant and the student, in compliance with the requirements of due process as defined above.

B. In the event that immediate resolution is not possible, the student will be notified in writing within two days of the complaint being filed. The student will then have three days to respond. After the student responds or fails to respond, the VPSES will take one of the following actions within two days, after consulting with the parties involved, and undertaking other investigations that may be appropriate under the circumstances, including contact with the Behavioral Intervention Review Board ("BIRB") and the VPILS when appropriate:

1. Dismiss the complaint.

2. Conduct an informal hearing, in which both the complainant and respondent as well as witnesses have the opportunity to be heard, and invoke a sanction or sanctions if the alleged violation is admitted.

3. Refer to a Case Review Officer (CRO) selected from a list prepared by the first day of fall semester each year by the Office of the College President. The CRO will be named within seven days of the issuance of the complaint to the student. The matter will also be referred to a CRO if the student admits the violation but wishes to appeal the sanction(s),

C. The action taken by the Office of Vice President of Student and Educational Services (or designee) will be communicated in writing to the parties involved within two days.

D. When in the opinion of the VPSES a health or safety emergency exists, the VPSES may shorten the timelines in this initial step and may omit the informal hearing, provided that the accused student is given due process by receiving notice of the charges and an opportunity to respond, and provided that the VPSES

makes contact with the complainant to assure that all facts known to the complainant are appropriately reviewed, prior to invoking sanction(s).

III. Step Three: Case Review

A. Purpose: To consider complaints referred by the Office of the Vice President of Student and Educational Services and to recommend appropriate action to be taken by the Office of the Vice President of Student and Educational Services.

B. The Case Review Officer (CRO) will conduct a case review, which will normally include discussion with all parties involved. Then the CRO will prepare a written report; and recommend one of the following actions to be taken by the Office of the Vice President of Student and Educational Services:

1. Dismiss the complaint.

2. Invoke a specific sanction.

3. Activate the Formal Hearing Panel.

C. The CRO will make a recommendation within seven working days of receiving the complaint.

D. Action by the Office of the Vice President of Student and Educational Services will be communicated in writing.to the parties involved

E. Appeals of the recommendation of the CRO must be submitted to the Vice President of Student and Educational Services within seven working days of receipt of the CRO's recommendation.

F. If the Vice President of Student and Educational Services cannot resolve the case to the satisfaction of the parties involved, he/she will activate the Formal Hearing Panel.

IV. Step Four: Formal Hearing Panel

A. The Formal Hearing Panel will be appointed not later than the first day of the Fall semester.

B. Members of the Formal Hearing Panel will serve for one year beginning the first day of the fall semester through the first day of the following fall semester and include:

1. A chairperson designated by the Office of the Vice President of Student and Educational Services. The chairperson may vote only to break a tie.

2. One student and one alternate - selected by the Student/Senate Liaison Committee.

3. One Faculty member and one alternate - selected by the Faculty Executive Committee.

4. One Administrative/Professional Staff member and one alternate – selected by the Executive Committee for A/P Staff.

5. One Support Staff member and one alternate – selected by the Support Staff Executive Committee

6. The membership of the Formal Hearing Panel will consist of persons who have not previously been involved in the case.

7. The Chairperson of the Panel will designate the alternates who participate in making the ruling of the Panel.

8. In the event an insufficient number of Panel members or alternates is available to participate within the timelines of this policy, then the chairperson will request designation of alternates by the appropriate group listed above. If the group does not designate alternates within three days, then the chairperson, Senate President and Vice President of Student and Educational Services will agree on designated alternates who are representative of that group.

9. Only those Panel members and/or alternates who have been present for presentation of all of the evidence will be eligible to vote on the decision

10. The Panel will convene and make a ruling if at least five members are present.

C. The Formal Hearing Panel may be requested to meet:

1. By the person(s) filing a written request with the Office of the Vice President of Student and Educational Services within seven days following notification of the action taken, or

2. By the Vice President of Student and Educational Services.

D. Within seven days of the receipt of a written request for a formal hearing, the Vice President of Student and Educational Services will convene the Hearing Panel. The parties involved will be advised in writing of the date, time, and place of the scheduled hearing.

E. Both parties have the right to have an attorney present at the formal hearing, at their own expense and in an advisory capacity only. Attorneys for either party may not actively participate in the proceedings. Scheduling of proceedings under this policy shall not be unduly impacted by the availability of counsel for one of the participants; if scheduling the hearing will be delayed more than seven days by the unavailability of counsel, the hearing will proceed without the presence of counsel.

F. The Formal Hearing Panel will review all previous information and actions and conduct a formal hearing at which each side will be heard. Within seven days following the formal hearing, the panel will make a ruling specifying its findings. Such ruling may result in:

1. Confirmation of the action of the Vice President of Student and Educational Services.

2. Dismissal of all or a portion of the complaint.

3. Instructions to the Vice President of Student and Educational Services to invoke a specific sanction or initiate other disposition as the Panel will deem appropriate.

G. The decision of the Formal Hearing Panel will be communicated in writing to the

parties involved. The person(s) filing the initial complaint will be notified in writing

when the matter is resolved. Formal written notices will be sent by the Office of the

Vice President of Student and Educational Services. Written notices will be sent out

within seven days of the Formal Hearing Panel's decision.

H. Such decisions of the Formal Hearing Panel will be final except that action involving

suspension or dismissal from the College must be ratified by the College President

before implementation.

See "Student Complaint and Hearing Process" in the College Catalog
Board Action 4945 – August 14, 2012
Board Action 4663 – March 11, 2008
Board Action 2032 - October 21, 1981

Public Information Posting Guidelines

Students wishing to post information (i.e. ads for sale or rent of personal property, notices of Delta meetings and special events, announcements of Delta student activities, etc.) are requested to take the information to Office of Student Engagement (A003) for approval.

The complete guidelines including who may post, what may be posted and where to post, can be founf at: www.delta.edu/student-engagement.aspx

Electronic Resources Access and Use Guidelines

1. By accessing College electronic information systems you assume personal responsibility for their appropriate use and agree to comply with all applicable College policies and procedures as well as external networks' policies and procedures, local, state and federal laws and regulations.
2. You are solely responsible for your access and use, and may not transfer or share your passwords or account except as expressly authorized in writing by the Executive Director of the Office of Information Technology (OIT).
3. Delta College electronic resources are provided to support the college mission. Uses such as private business use or use for personal gain, non-profit activities, advertising and fundraising not related to the college are prohibited. Excessive personal use for activities such as game playing, financial transactions or communicating with family and friends is also prohibited.
4. Uses that threaten the integrity of any system or its contents, the function of resources accessed through the system, the privacy or safety of anyone, or that are illegal are forbidden.
5. Misuse can lead to penalties up to and including loss of system access, employment termination or expulsion from classes or from the college. In addition, some activities may lead to risk of personal legal liability, both civil and criminal. Use common sense: the same rules of courtesy, ethics, morality and law apply here as elsewhere.
6. All persons accessing the College's electronic resources are covered by these guidelines, whether faculty, staff, students, trustees, volunteers, emeritus or retired persons, guests, or any other user.
7. All electronic resources of the College are covered by these guidelines, including without limitation all networks, supporting backbones and links, stand-alone computers, output devices, including printers, shared computers, and connecting resources of any kind, including any external networks.
8. You should not assume that anything received, sent or stored on any of these systems is private. The College generally, and system administrators specifically, will respect the privacy of users. However, these systems are not provided or intended for sending or receiving private or confidential communications. If material is stored electronically rather than in paper files, it must be just as accessible to others who need access to those files as any paper file would be. In addition, system administrators have access to all mail and user access requests and will monitor them as necessary to assure efficient performance and appropriate use. If access discloses improper or illegal use, it may be reported and penalized. Legal process, including requests for information under the Freedom of Information Act, may also compel disclosure.
9. Each user must respect the privacy of every other user. You may not attempt to access, copy, modify or otherwise view or use the passwords, data, or electronic resources of any other user, except as expressly authorized in writing by the Executive Director of the Office of Information Technology (OIT).
10. You may not represent yourself as someone else, or send messages that appear to originate from someone else ("spoofing").
11. You have free speech and academic freedom rights in electronic forms of communication as you do in other forms of communication. However, your responsibilities may be somewhat different because of the nature of the medium. Electronic messages may be accessible to unintended audiences. The College will not impose restraints or monitor content of communications except as required by applicable law and system administration requirements. Your communications are subject to such laws, including those regarding others' rights to privacy, licensing or copyright, prohibition of defamation, or prohibition of harassment or stalking, and the consequences of violations can be severe.
12. Your access to resources of the College, including access to electronic resources, is a privilege and not a right.
13. You must observe classroom and computer lab policies and procedures, and comply with instructions of support staff in the computer labs and OIT staff. In particular, you will vacate workstations or the facility and will surrender other resources (such as printers and software) promptly when asked to do so both at closing times and when necessary to permit access by others.
14. You should assume that anything you access may be copyrighted. Absence of a © notice does **not** mean that the material is not copyrighted. That means that, for example, before you download a document, an image, or any other media to your web page, you should ask the author's permission.
15. You have full responsibility for statements made via the electronic resources of the College, including statements on any personal web pages. Such statements do not represent the opinions of the College or any other member of the College community. Your personal web page should include the following disclaimer at the bottom of the first page: "This space is provided as a service by Delta College. Views expressed do not necessarily reflect those of the College."
16. The following list is provided as an illustration, but not an exhausitve list, of the kinds of uses that could subject you to penalties by the College or by outside authority: • Harassment, such as repeated unwanted communication or communication that threatens • Violation of others' privacy • Destruction or damage to equipment, software or data of the College or others • Violation of computer system security • Use of computer accounts or access codes without permission, or permitting another unauthorized person to use accounts or access codes • Violation of copyright or software license agreements • Negligent or deliberate inappropriate use of the resource in ways that degrades service for other users, including viruses, Trojan Horses, worms and the like • Academic dishonesty • Violation of College policy or local, state or federal law • Using computer resources for any purpose which is criminal, unethical, dishonest, damaging to the reputation of the College, or likely to subject the College to liability. • "Spamming" or the non-commercial equivalent, defined as sending a large volume of unsolicited e-mail which is irrelevant to most if not all recipients.
17. Consequences and process will depend on the violation. When required to protect others or system integrity, immediate termination, removal of pages or other materials, or suspension of user privileges may occur. Otherwise, the user will normally be notified of the alleged infraction and will have an opportunity to respond to a person or body separate from system administration, and will have an opportunity to appeal. The process used will depend on the nature of the alleged infraction, and could be heard under the Judicial Process, Senate Policy 2.065; Student Violation of College Rules and Regulations, Senate Policy 8.045; Disciplinary Action, Support Staff Policies and Procedures 1.12; Affirmative Action or Sexual Harassment complaint procedures, or other appropriate college procedures, or could be referred to outside legal authorities where violations of local, state or federal law are involved. Penalties imposed may range from warnings to suspension of privileges for a temporary, definite, or indefinite period, to termination of employment or expulsion from classes or from the College, to civil suit or criminal prosecution and the penalties resulting from those actions.
18. Delta College reserves the right to monitor, manage, and control the usage of these resources and to make changes in these quidelines without prior notice.

Students' Education Records: Accessibility & Confidentiality

The Family Educational Rights and Privacy Act (FERPA) of 1974 as amended, was written to protect the privacy of educational records, to establish the right of students to inspect and review their educational records and provide guidelines for the correction of inaccurate or misleading data through informal or formal hearings. Persons requesting information and/or disclosure may be required to provide personal identification acceptable to the College official.

For Full Student notification please visit our website at www.delta.edu/registrars-office/ferpa

Law Enforcement on the Campus

The Delta College Department of Public Safety & Training is primarily responsible for providing safety and security services, enforcing traffic and parking regulations, and conducting criminal and accident investigations. The Department is located in the Main Building, N101, across from the East Main Entrance. The Department of Public Safety & Training is open during normal hours of business, excluding holidays, at which time officers of the Department may be dispatched through Bay County Central Dispatch, for emergencies **only.**

The police officers of the Delta College Department of Public Safety & Training are vested with full peace or law inforcement authority and arrest powers on campus, granted by state statute to the Board of Trustees of Delta College. These police officers are trained in the same manner as all other law enforcement officers in the State of Michigan and are certified as such through the Michigan Commission on Law Enforcement Standards. The officers also receive training in basic first aid and personal safety. The Department of Public Safety & Training maintains a close working relationship with federal, State, county, and other local law enforcement agencies and appropriate elements of the criminal justice system.

Reporting Criminal Activities/Emergencies

To report a crime or an emergency, you should call the Delta College Department of Public Safety & Training at 686-9111 or for intra-College calls, dial Ext. 9111. A crime or emergency which occurs off-Campus should be reported to the police department having legal jurisdiction for that area. If you are unsure which department has jurisdiction, call 686-9111.

The Department of Public Safety & Training maintains two-way radio contact with Bay County Central Dispatch, providing access to assistance and support from the Bay County Sheriff Department, the Michigan State Police, Saginaw Valley State University Police Department, the Frankenlust Township Fire Department, Bay Medical Ambulance, and the Delta College Facilities Management Department.

Maintenance/Security of Campus Facilities

Delta College maintains a very strong commitment to Campus safety and security. Every effort is made to ensure that the Campus facilities, buildings, and grounds are maintained in such a manner as to promote safety and reduce criminal opportunity.

Exterior lighting is a very important part of this commitment. The College attempts to maintain adequate exterior lighting in parking lots as well as on the pedestrian walkways. Members of the College community are encouraged to report any exterior lighting deficiencies to the Department of Public Safety or the Facilities Management Department. Written surveys of exterior lighting are taken by the officers of the Department of Public Safety & Training or by Facilities Management employees on a monthly basis.

Exterior doors on Campus buildings are locked and secured each evening by Department of Public Safety & Training personnel. Facilities Management personnel are responsible for the unlocking and opening of these exterior doors. Door and security hardware operating problems are also reported by these personnel on a daily basis. Problems in exterior door locking mechanisms should also be reported to the Department of Public Safety & Training or Facilities Management Department.

Parking lots on Campus are actively patrolled by Department of Public Safety & Training officers and the Department also has a variety of alarms (including fire, intrusion, hold-up and trouble) to assist the officers in patrolling and monitoring the Campus.

Crime Statistics

Delta College believes that an informed public is a safety-conscious public. Crime statistics, found at *www.delta.edu,AtoZ index, Public Safety*, are provided in compliance with the "Jeanne Cleary Disclosure of Campus Security Policy and Campus Crime Statistics Act."

Summary of Harassment Policy and Procedures

Delta College is committed to a work and learning environment within which all individuals are treated with respect and dignity. The College prohibits discriminatory practices, including harassment, with the following policy:

Harassment is defined as unwelcome conduct that unreasonably interferes with work or study, or creates an abusive, hostile, or offensive environment as defined by Michigan or Federal law. The protections of this policy are available to all persons regardless of religion, race, color, national origin, age, sex, marital status, sexual orientation, gender identity, height, weight, arrest record, veteran status, disability, or other classifications as required by applicable U.S. federal, state or local law.

Harassment is not acceptable at Delta College. Delta College employees and students are individually responsible to promptly report any incidents of harassment, experienced or observed. Complaints and concerns should be reported to an appropriate supervisor or college personnel in one of the following offices: Academic, Equity, Human Resources, off-campus administration, Public Safety, or Student and Educational Services.

Complaints and concerns will be followed by appropriate action from the Equity and/or Human Resources offices, as defined by the procedures.

Delta College is committed to addressing complaints of harassment promptly, consistently and fairly. For more information, or to address questions or concerns, contact any of the following offices:

- Equity Office, location: B-136; Phone: (989) 686-9512; email: equityoffice@delta.edu
- Human Resources Office, location: J-101; phone: (989) 686-9042; email: humres@delta.edu
- Department of Public Safety, location, N-102, Phone: (989) 686-9113

Off-campus Center situations can be discussed with any of the offices above, or with the Center's administrative staff.

Parking Regulations

All individuals using a motor vehicle on Delta College property are expected to comply with College and/or State rules, regulations, and laws pertaining to parking, traffic, and vehicle use on College property. Violations of College parking rules and regulations will result in a parking ticket which will result in fines and penalties ranging from $10 to having the vehicle towed away at the owner's expense. Operators in violation of State law provisions applicable to the Campus will be issued a traffic citation complaint, which will require the violator to appear in 74th District Court in Bay City. Delta College parking and traffic regulations can be found at *www.delta.edu,AtoZ index, Public Safety*

Drug & Alcohol Guidelines and Resources

Information is provided in compliance with the Drug Free School and Communities Act Amendments of 1989 Public Law 101-226 at *www.delta.edu,AtoZ index, Public Safety*.

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Definitions of College Terms

Don't get lost in College jargon. Understand these terms, which generally are common to all colleges, and your academic life will be easier.

Academic Year: September through the following August. Includes the Fall Semester, Winter Semester, and Spring Semester,.

Academic Credits: See Credits.

Accredited: Certified by a specific state, regional, or national organization as meeting standards of quality in instruction, staffing, facilities, finances, and policies.

Add: Changing your schedule by adding a course after your initial registration.

Admission: Being accepted by Delta so you can register for courses.

Assessment: Basic skills tests in English, reading, and math to assist you in selecting courses at the appropriate level. Generally, assessment is required for new students.

Associate Degree: Degree (diploma) granted after successful completion of a program of study which has a minimum of 62 credits.

Audit: Registering for and attending a course, but receiving no grade or credits. Regular tuition and fees must be paid. Audits do not count toward completion of a program or graduation.

Caution: A warning status due to low grades.

Centers: See maps, in this section.

Certificate: Document granted upon successful completion of a program of study which has less than 62 credits.

Concurrent Course: Often referred to as Corequisite. A course that must be taken during the same semester as another course is taken. Concurrent courses are listed at the beginning of the course description. See Section VI for Academic Course Descriptions.

Contact Hours: The total hours of lecture and laboratory instruction required for each course.

Corequisite: See Concurrent Course.

Course: A single subject, such as ENG 111, taken for one semester.

Credits: Also referred to as Academic Credits, Credit Hours, and Semester Hours. Each course is assigned a number of credits which generally indicates the number of hours per week the class meets; i.e., a three credit course generally meets three hours each week. Courses with labs and occupational courses, however, generally meet more hours than the number of credits they carry. Tuition and fees are ordinarily charged by credit.

Curriculum: See Program of Study.

Drop: Changing your schedule by dropping a course after your initial registration.

Dual Degree: An Associate degree that is earned by completing two specified curricula concurrently. Approved curricula combinations are listed in Section III, Programs, Dual Degrees.

Elective: A course you may elect (choose) to take as opposed to a course you are required to take.

Fees: Special charges for courses or services other than tuition.

Financial Aid: Money received from various sources (grants, loans, scholarships, jobs) to help students with college costs. Most, but not all, forms of aid are based on financial need.

Financial Aid Transcript: A document you are required by federal regulations to have every other college you attended send to the Delta College Financial Aid Office, which lists any federal aid you may have received or states that you received no aid. Required of financial aid recipients before aid can be awarded.

Freshman: Academic student who has earned 29 or fewer credits.

Full-Time Student: Enrolled in 12 or more credits in a semester.

G.E.D. (General Educational Development): A high school equivalency certificate for adults who did not receive the traditional high school diploma. It is earned by passing the national G.E.D. exam, which may be taken through Delta.

General Education: A group of courses in the areas of social science, natural/physical science, communication, and humanities which provide a common and broadly-based body of knowledge.

GPA (Grade Point Average): The GPA is determined by dividing the grade points earned (see definition of grade points) by the number of credits attempted, excluding courses in which you received final grades of "P," "I," "X," "WI," "W," or "NC." The semester GPA includes grades in each semester; the cumulative GPA includes grades from all semesters at Delta.

Grade Dispute: The process available to you if you do not agree with the grade you received in a course. See Section IV, Academic Policies and Information, Disputed Final Grade Policy.

Grade Ombudsman: The staff member who will provide you with information and assistance in understanding and following the Grade Dispute process. For name of person, contact Senate Office at 686-9297.

Grade Points: Numerical values assigned to a letter grade for a course ("A"= 4 pts., "B"= 3 pts., "C"= 2 pts., "D"= 1 pt., "F"= 0 pts.), which are then multiplied by the number of credits assigned to the course; i.e., a "B" grade for a three credit course would have three grade points x three credits = 9 grade points.

Graduation Requirements: Specific steps you must successfully complete to qualify for a degree or certificate. See Section IV, Academic Policies & Information, Graduation Requirements for details.

Grants: Money provided for educational expenses which does not have to be repaid; also called "gift aid."

In-District Student: A legal resident of Bay, Midland, or Saginaw county as defined by the Delta College residency policy.

Instructor-Initiated Drop: Being dropped from your course by your instructor for either lack of attendance or lack of the required prerequisites.

Loans: Money you borrow from your bank or credit union for educational expenses which must be repaid after you leave school.

MACRAO: A transfer agreement between many Michigan two- and four-year colleges, which standardizes the basic general education requirements. See Section III, Programs for details.

Ombudsman: See Grade Ombudsman.

Orientation: A program you will participate in as a new Delta student, which will acquaint you with the College facilities, programs, services, and procedures and during which a counselor will assist you in reviewing your program and selecting your courses.

Out-of-District Student: A legal resident of Michigan, residing in a county other than Bay, Midland, or Saginaw.

Out-of-State Student: A legal resident of a state other than Michigan or of a foreign country.

Part-Time Student: Enrolled in less than 12 credits in a semester.

Prerequisite: Courses which must be successfully completed or requirements which must be met before enrolling in a specific course. Prerequisites are listed at the beginning of the course description. See Section VI for Academic Course Descriptions.

Probation: A warning status due to low grades or improper conduct.

Program of Study: A group of specific courses which you are required to complete successfully in order to qualify for a degree or certificate.

Registration: The time when you enroll in your courses and pay your tuition and fees. See Section II, Enrollment, Registration for details.

Required Course: A course in your program that you must take as opposed to one that you elect (choose) to take.

Semester: Generally 15 weeks in length. The three semesters in an academic year at Delta are Fall (late August through December), Winter (January through April), and Spring (May through August, 15 weeks).

Semester Hours: See Credits.

Session: Generally 7 or 7 1/2 weeks in length, which is half the length of a semester.

Service Credits: Credits assigned to non-credit courses. These credits are not applicable to a Delta Associate degree or Certificate and are not transferable to other colleges.

Sophmore: Academic student who has earned 30 or more credits.

Suspension: Being required to leave Delta College due to a very low grade point average or unacceptable conduct.

Transcript: Your official Delta College record listing all academic courses attempted with grades, credits, and grade points; all transfer credits accepted; and credit awarded by examination or advanced placement; and your cummulative GPA.

Transfer: The official process of moving from attendance at one college or university to attendance at another college or university.

Tuition: The money you pay the college for instruction and services. A dollar amount is assigned to each credit. Tuition is determined by multiplying the dollar amount by the number of credits for which you are registering. In-District, Out-of-District, and Out-of-State tutition rates are different. See www.delta.edu for current tuition rates.

Withdrawal: Dropping all of your courses and leaving Delta College.

Who to Contact

Area Code is 989

Call Toll-Free from ..... Bay City/Saginaw 686 + Extension
Midland/Auburn 495-4000, Birch Run/Frankenmuth/Reese/Vassar 758-3400

Questions About:	Who to Contact (e-mail)	Office	Extension
Academic Advising	Counseling/Advising (counsel@delta.edu)	D102	9330
Academic Standards	Registrar's Office (regis@delta.edu)	B100	9305
Academic Testing	Testing Center (testingcenter@delta.edu)	A133	9182
Adding Courses	Registrar's Office (regis@delta.edu)	B100	9305
Adjunct Faculty Support	Instructional Support Services (iss@delta.edu)	J102	9515
Admissions	Admissions (admit@delta.edu)	D101	9093
Affirmative Action	Equity Office (equityoffice@delta.edu)	J101	9547
Apprenticeship/Skilled Trades	Skilled Trades (skilledtrades@delta.edu)	M128	9476
Articulations	Articulation Office (artic@delta.edu)	A009,WCL	9070
Assessment/Testing Services	Testing Center (testingcenter@delta.edu)	A133	9182
Athletics, Intercollegiate	Athletic Office (athletics@delta.edu)	D124	9477
Bookstore	Bookstore (bookstore@delta.edu)	Courtyard Level - Food Court	9030
Bridge Program for Underprepared Students	Bridge Program (bridge@delta.edu)	D102	9163
Broadcasting	Broadcasting (wdcq@delta.edu, wucx@delta.edu)	A034	9362
Bus Schedule (route information)	Bay Metro (www.baymetro.com)	Bay City	894-2900
	Saginaw Transit-STARS (www.saginaw-stars.com)	Saginaw	907-4000
Career Information	Career Services (jobplace@delta.edu)	D102	9072
Caution Status	Registrar's Office (regis@delta.edu)	B100	9305
Clubs & Organizations	Student Engagement Office (stuact@delta.edu)	A003-WCL	9865
American Marketing Assns. Collegiate Chapter	Dawn Fairchild(dawnfairchild@delta.edu)	G110	9220
ASL (American Sign Language)	Paul Bowen (paulbowen@delta.edu)	S045	9408
Biology Club	Wendy Baker (wjbaker@delta.edu)	F211	9306
Black Student Union	Shawntaye Adams (shawntayeadams@delta.edu)	G210	9130
Bowling Club	Michael Wiltse (michaelwiltse@delta.edu)	N102	9110
Brazilian Jiu Jitsu Team	Casey Cornelius (caseycornelius@delta.edu)	S042	9540
Chemistry Geek Squad	Bernadette Harkness (bernadetteharkness@delta.edu	D167	9267
Chez Les Napoleons (French Club)	Ann DeCorte (anndecorte@delta.edu)	J102	9515
	Maria Sablo Yates (mariasabloyates@delta.edu)	S051	9573
Collegiate DECA	Gregory Hubner (gregoryhuber@delta.edu)	A074-ECL	9043
Criminal Justice Society	E. Whitaker (emwhitaker@delta.edu)	G126	9063
Dental Assisting Student Society	Pam Smith (pamelsmith@delta.edu)	F43	9565
Entrepreneurship Club	Ralph Griffith (ralphgriffith@delta.edu)	F231	9277
Hockey Club	Paula Cornell (paulacornell@delta.edu	F224	9421
Honors Leadership Board	Julia Fogarty(jtfogart@delta.edu)	A008-WCL	9617
InterVarsity Christian Fellowship	Joyce Howard(jahoward@delta.edu)	J102	9515
	Eric Wiesenauer (ericwiesenauer@delta.edu)	G205	9761
Peace Club	Jeff Dykhuizen (jeffdykhuizen@delta.edu)	A086	9067
Phi Theta Kappa-Xi Delta Chapter	Jeff Sorrels (jeffreysorrrels@delta.edu)	S250	9485
PTA Club	Mike Spitz (amspitz@delta.edu)	P172	9478
SOHL - Society of Hispanic Leaders	Diana Gutierrez (dianagutierrez@delta.edu)	D120	9434
Student Nurse Association	Janet Massoglia (janetmassoglia@delta.edu)	F218	9280
	Wanda ZenZen (wandazenzen@delta.edu	F208	9193
Student Senate	Ski VanderLaan (skivanderlaan@delta.edu)	A077-ECL	9419
Students for Sustainability	Linda Petee (lindapetee@delta.edu)	B163b	9209
Unison	Lauren Smith (laurensmith3@delta.edu)	S049	9496
Collegiate (Student Newspaper)	Collegiate Office (collegiate@delta.edu)	A004-WCL	9337
Computer Lab	LLIC (library@delta.edu)	A110	9513
Conduct, Rules & Regulations	Vice President of Student Services	B134	9339
Conferences & Special Events	Business Services (busoff@delta.edu)	B116	9036
Co-op & Internships	Academic Career Experience (ace-sl@delta.edu)	A008-WCL	9474
Corporate Services	Corporate Services (info@corpserv.delta.edu)	H Wing	989-758-3602
Counseling/Advising/Career Services	Counseling/Advising (counsel@delta.edu)	D102	9330
Delta's Closet (Career Clothing)	Lori Ziolkowski (loriziolkowski@delta.edu)	D134	9384
Dental Hygiene Clinic	Dental Hygiene Clinic	F140	9469
Disability Resources	Disability Resources (disabilityresources@delta.edu)	D102	9322
Dismissal Status	Registrar's Office (regis@delta.edu)	B100	9305
Disputed Grades	Grade Ombudsman (kjtreadw@delta.edu)	A118	9275
Diversity	Student Diversity Office	A003	9269
Dropping Courses	Registrar's Office (regis@delta.edu)	B100	9305
eLearning	eLearning (elearning@delta.edu)	J102	9401
Emergencies, Illness, or Injury	Public Safety & Training (cops@delta.edu)	N102	9111
Non-Emergency Calls	Public Safety & Training (cops@delta.edu)	N102	9113
Employment (Student)	Career Services (jobplace@delta.edu)	D102	9072
Equity Compliance	Equity Office(equityoffice@delta.edu)	J101	9547

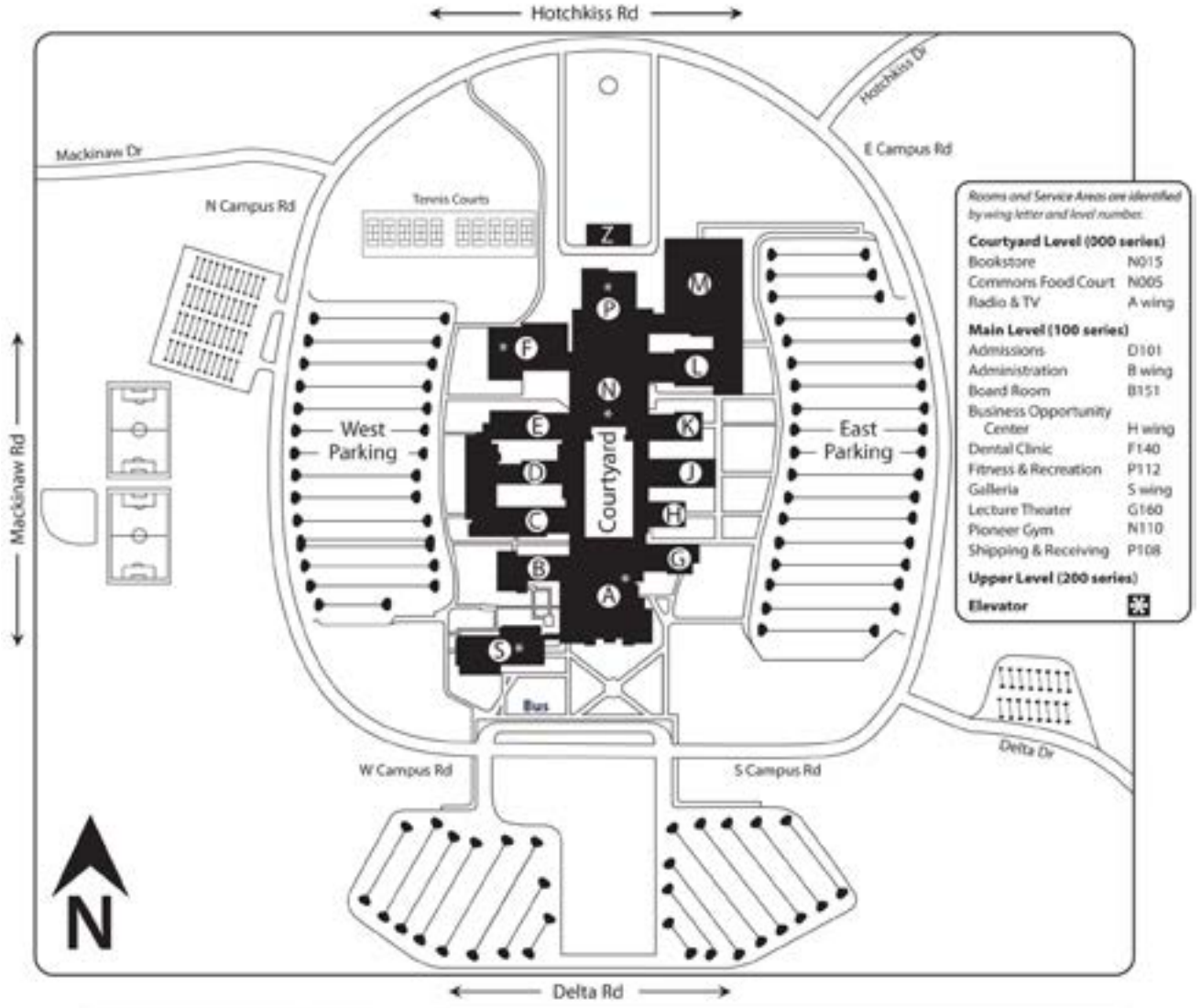
Questions About:	Who to Contact (e-mail)	Office	Ext.
FERPA	Registrar's Office (regis@delta.edu)	B100	9449
Finances (student)	Student Finance Office (finance@delta.edu)	B100	9333
Financial Aid	Financial Aid (finaid@delta.edu)	D101	9080
Fire Science /EMS	Coordinator (firesci@delta.edu)	M128	9020
Fitness and Recreation	Fitness & Recreation Center (fitness@delta.edu)	P110	9026
Food Pantry for Students	Student Food Pantry	A008	9205
Food Services	Food Services (foodservices@delta.edu)	N020	9035
Foundation Office	Foundation Office (foundation@delta.edu)	A013	9224
Grade Ombudsman	Karen Treadway (kgtreadw@delta.edu)	A118	9275
Grades	Registrar's Office (regis@delta.edu)	B100	9305
Graduation, Requirements & Applications	Registrar's Office (regis@delta.edu)	B100	9305
Harassment	Equity Officer (equityoffice@delta.edu)	A002	9269
Honors Program /Honors Leadership Board	Honors Office (honors@delta.edu)	A008-WCL	9091
Incomplete Grades	Course Instructor	—	—
Institutional Advancement	Executive Director	B156	9225
Intercollegiate Sports	Athletics Director (athletics@delta.edu)	D124	9477
International/Intercultural Programs	Academic Career Experience (ace-sl@delta.edu)	A008-WCL	9474
Internet Courses	eLearning (elearning@delta.edu)	J102	9401
Internships	Academic Career Experience (ace-sl@delta.edu)	A008-WCL	9474
Intramural Sports	Intramural Office	N113	9331
Jobs, Part/Full-Time (Student)	Career Services (jobplace@delta.edu)	D102	9074
Judicial/Due Process	Dean of Student & Educational Services	B134	9512
Kids College	Kids College	D101	9185
Library Learning Information Center (LLIC)	Library (library@delta.edu)	A110	9560
	Testing Center (testingcenter@delta.edu)	A133	9182
	Computer lab	A110	9513
	Teaching Learning Center (tlc@delta.edu)	A110	9314
LifeLong Learning Classes	Lifelong Learning Office (lifelonglearning@delta.edu)	H-Wing	9444
Lost and Found	Public Safety & Training (cops@delta.edu)	N102	9113
MI Small Business & Tech Development	MI Small Bus & Tech Devel Center (sbtdc @delta.edu)	H Wing	9597
Midland Center (See Maps in this section)	Midland Center	Midland	495-4010
Multi-Cultural Services	Student Diversity & Inclusion (stuact@delta.edu)	A003	9117
Orientation for New Students	Admissions (admit@delta.edu)	D101	9093
Parking	Public Safety (cops@delta.edu)	N102	9113
Payment Plan (Tuition)	Student Finance Office (finance@delta.edu)	B100	9333
Personal/Career Advising	Counseling/Advising (counsel@delta.edu)	D102	9330
Planetarium & Learning Center (See Maps in this section)	Planetarium (planet@delta.edu)	Bay City	667-2260
Police			
Campus Security	Public Safety & Training (cops@delta.edu)	N102	9113
Jail (Corrections) Academy	Police Academy	N102	9176
Police Academy	Police Academy	N102	9176
Possible Dream Program	Possible Dream Office	D101	9185
Probation Status	Registrar's Office (regis@delta.edu)	B100	9305
Public Information	Marketing & Public Information (leannegovitz@delta.edu)	B155	9490
Records (Student)	Registrar's Office (regis@delta.edu)	B100	9305
Recreation	Fitness & Recreation Center (fitness@delta.edu)	P110	9026
Recycling	Sustainability Office (sustainability@delta.edu)	B163	9209
Registration	Registrar's Office (regis@delta.edu)	B100	9305
Residency Qualifications	Registrar's Office (regis@delta.edu)	B100	9305
Ricker Center (See Maps in this section)	Ricker Center	Saginaw	752-7500
Rights, Student	Dean of Student and Educational Services	B134	9512
Security, Campus	Public Safety & Training (cops@delta.edu)	N102	9113
Service-Learning	Service Learning (ace-sl@delta.edu)	A008-WCL	9474
Skilled Trades, Apprenticeship	Skilled Trades (skilledtrades@delta.edu)	M128	9476
Small Business	MI Small Bus & Tech Devel Center (sbtdc @delta.edu)	H Wing	9597
Sports, Intercollegiate	Athletics Director (athletics@delta.edu)	D124	9477
Sports (Intramural)	Intramural Office	N113	9331
Student Food Pantry	Student Food Pantry	A008	9205
Teaching/Learning Center Services	LLIC Teaching/Learning Center (tlc@delta.edu)	A110	9314
Testing Center	Testing Center (testing center@delta.edu)	A133	9182
Textbooks & Class Supplies	Bookstore (bookstore@delta.edu)	Courtyard Level - Food Court	9030
Traffic Regulations & Violations	Public Safety & Training (cops@delta.edu)	N102	9113
Transcript Requests	Registrar's Office (regis@delta.edu)	B100	9305
Transfer Credit Acceptance	Registrar's Office (regis@delta.edu)	B100	9305
Transfer to Another College	Counseling/Advising (counsel@delta.edu)	D102	9330
Transferability of Delta Courses	Counseling/Advising (counsel@delta.edu)	D102	9330
Tutoring	LLIC Teaching/Learning Center (tlc@delta.edu)	A110	9314
Veterans Benefits, Certification & Information	Veterans Services Office (vets@delta.edu)	B100	9465
Volunteer Services	Service Learning (acr-sl@delta.edu)	A008-WCL	9474
Withdrawal from College	Registrar's Office (regis@delta.edu)	B100	9305

WCL = West Courtyard Level

On the Web: *www.delta.edu/atoz*

Delta College Main Campus

1961 Delta Road • University Center, MI • 989-686-9000





From I-75

Take exit 160. Turn south onto M-84.
Travel 1/4 mile to thesecond traffic light.
Turn west onto Delta Road.
Travel 1-1/4 miles. College is on the right.

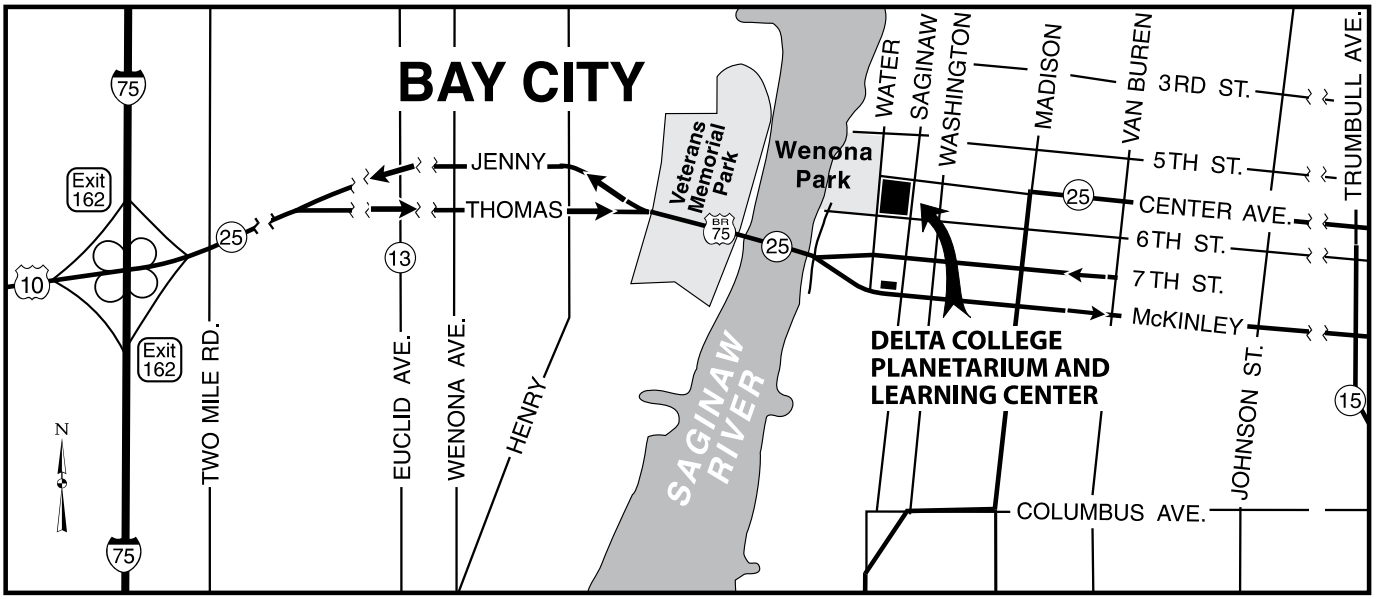
From US-10

Exit south at Mackinaw Road exit onto Mackinaw Road.
Travel south 2-1/4 miles, past the blinking light at Hotchkiss Road.
College Entrance is on the left.

Delta College is an Equal Opportunity Organization, committed to excellence through inclusiveness and diversity. 10-1.24 (6/11)

Delta College Planetarium & Learning Center

100 Center Avenue • Bay City, MI • 989-667-2260



FROM I-75 (NORTH AND SOUTH)

Take exit 162 to downtown Bay City/M-25.

Continue on one-way Thomas Street.

Cross over river at first stop light.

Turn left at stop light onto Saginaw Street, and go two blocks to 6th Street.

Cars: Turn left onto 6th Street to enter Delta parking lot.

Busses: Turn left onto 6th Street, turn right onto Water Street, and park at Planetarium entrance.

FROM US-10 (AUBURN/MIDLAND AREAS)

US-10 crosses over I-75 and becomes M-25 into Bay City.

Continue on one-way Thomas Street.

Cross over river at first stop light.

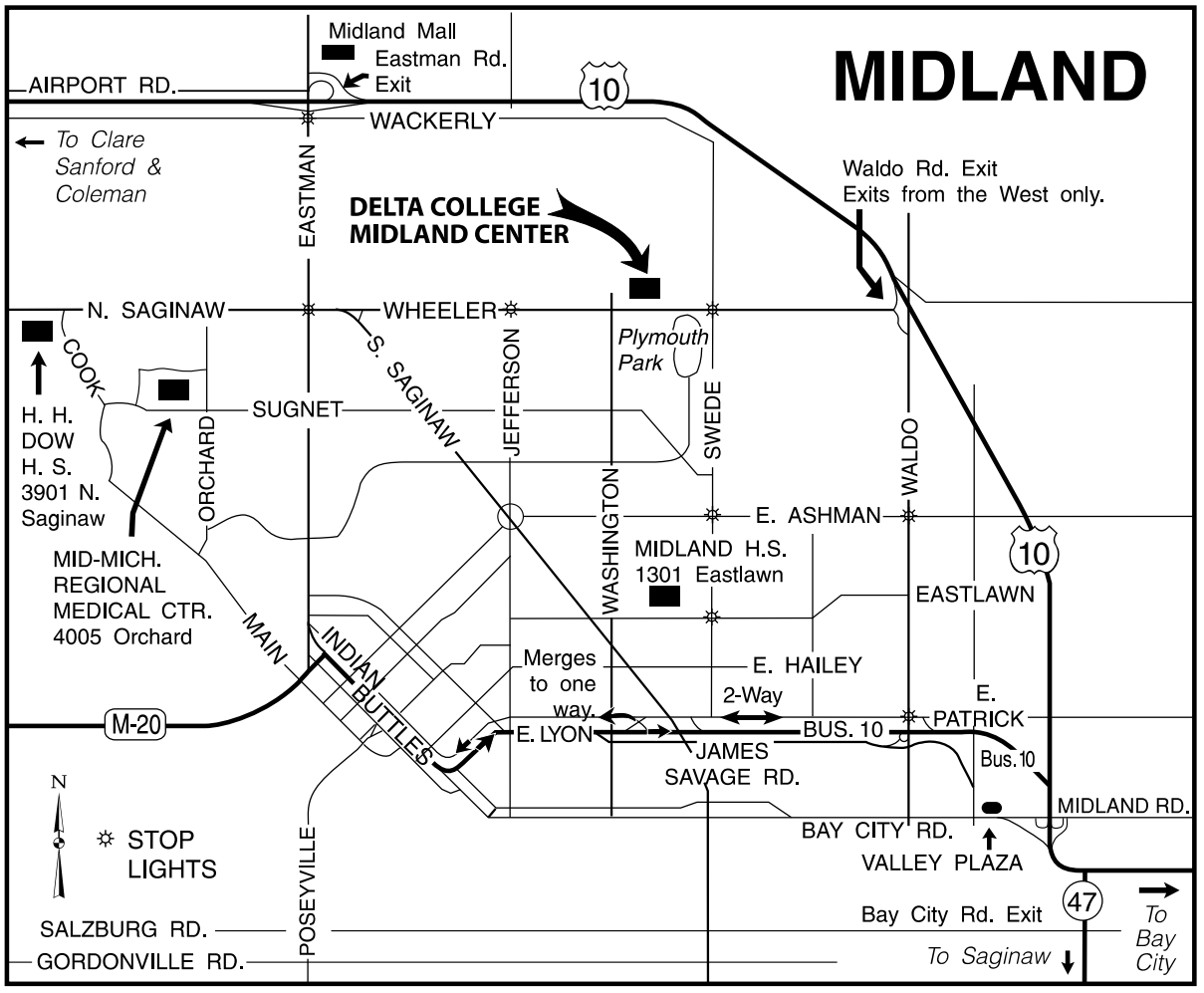
Turn left at stop light onto Saginaw Street, and go two blocks to 6th Street.

Cars: Turn left onto 6th Street to enter Delta parking lot.

Busses: Turn left onto 6th Street, turn right onto Water Street, and park at Planetarium entrance.

Delta College Midland Center

1025 East Wheeler • Midland, MI • 989-495-4010



Westbound US-10

Toward Midland: Exit left on "Downtown Midland" exit (US-10 business route). There is no westbound exit at Wheeler Road. Exit right onto Waldo Road exit. This ramp exits onto East Patrick Road. Turn left.

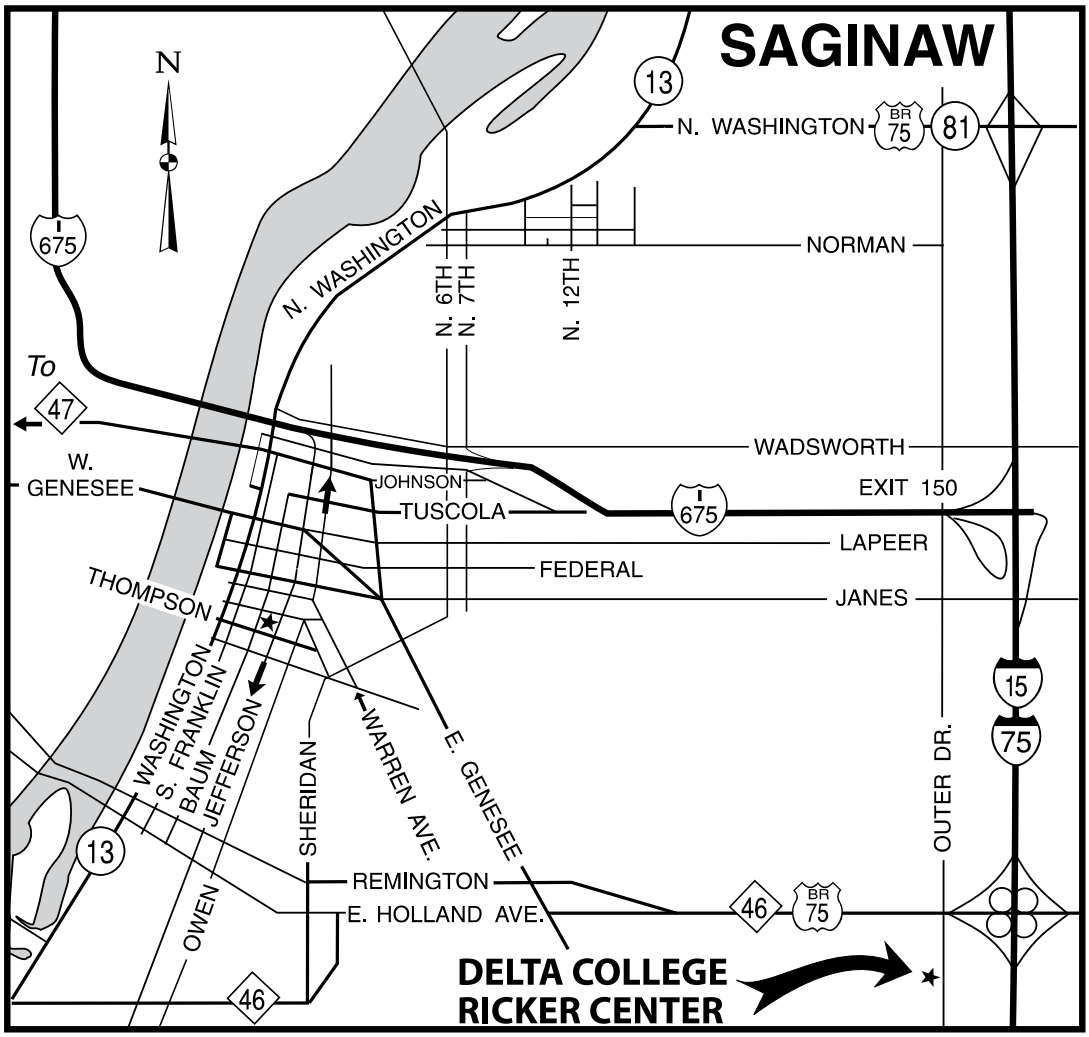
Continue two blocks on East Patrick Road to Swede Road. Turn right. Follow Swede Road to Wheeler Road (approx. 2 miles, north). Turn left (approx. 3/4 mile). The **Delta College Midland Cente**r is on the right.

Eastbound US-10

Exit to Wheeler Road via Waldo Road exit.

Delta College Ricker Center

1925 South Outer Drive • Saginaw, MI • 989-752-7500



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